

**“Sow a thought and reap a
habit
Sow a habit and reap a
character
Sow a character and reap a
destiny.”**

It was Hans Selye in the modern era that drew attention to the need to learn to stop emotions from getting aroused.

He called it stress management.

Emotions have even obstructed world peace, which everyone in the world is yearning for.

It is the cause of all the crimes, wars and terrorism in the world. Emotion is also the root cause of all mental sicknesses as Freud pointed out.

The problem of life which the Buddha referred to, which is also recognized by modern existential philosophers, is also based on emotions. Biologists value emotions only for the reason that it helps animals save their lives and propagate their species. If one recognizes the risks involved in the pursuit of sensual pleasure? The need to gain control over emotions becomes crucial.

The first step is to acquire the harmonious perspective.

The harmonious perspective is the perspective that brings about harmony internally and externally.

This is a perspective, not merely a right view or a right understanding.

This is a different way of looking at life, yourself, the world, and your relationship to the world.

It is seeing things in a different way that does not create conflict internally or externally.

We explain what should be done,
why it should be done, and how it
should be done.

This means we explain, so no one
can complain.

This is not a “monkey see,
monkey do” method.

We speak to intelligent people
who want to understand what
they are doing, and why they are
doing it.

Consistencies Between The
Original Teachings of the Buddha
&
Recent Scientific Discoveries:
The Process of Perception
Cognitive Process
Affective Process



Perception, Intention, Expectation



BILLY T.F. TAN
22ND OCTOBER 2011

**SEREMBAN SUDHAMMA
BUDDHIST SOCIETY**

I would like to just very quickly say one very important point because I do get a bit of miscommunication from people. I'm originally not a Dhamma speaker. But I have taken the past to learn about Buddhism in the last few years and have had a very good teacher. It just so happened that over the past 25 years as a professional trainer of a very high-level executives, I actually used quite a lot of material from neuroscience and psychology, to teach them about how to manage and control the mind and how to use the mind to become more successful in business and in relation with people. So emotional intelligence is one of my key topics, but I also do a lot of other mind related topics. It was very fortunate a couple years ago when I started with my path into Buddhism in a more serious manner towards the end of my career.

I met up with a very good teacher Bhante Punnaji based in Buddhist Maha Vihara, and I spent quite a bit of time with him in the last one year and that has helped me understand a lot about Buddhism. The thing that really surprised me was all the wonderful things that I have collected in Neuroscience and Psychology actually turn out to be things that are starting to prove the concepts and the things that Buddha was teaching. I was quite amazed. In fact later on I will show you something which the psychologists and neuroscientists only discovered 20-30 years ago, but Buddha spoke about that 2600 years ago about something working inside the brain itself.

So without adieu we'll begin today's talk. It's called Perception, Intention, and Expectation. These three words basically refer to what goes on in our mind when we are interacting with the world. So I begin by asking this simple little question; I always like to begin at this point in time: Who am I? When we ask one another, "Who are you?" What would you normally say? What kind of things would you or how would you describe yourself: who am I? I am so and so or I am doing this. I'm a doctor. I am a lawyer. I am an engineer. I am a student. I am what I do. I am what I have. But in reality if we go deep into the Buddhist teaching, there is no such thing as a "Self" so to speak. It is all experience. Everything that is happening around us is experience.



WHO AM I ?



❖ I am an Organism in an Environment



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So when we speak of it from that perspective, of the Buddhist perspective: “Who am I?” Really I am just an organism in an environment; that means I am actually surrounded by a lot of things happening; organism in an environment.



WHO AM I ?



❖ I am an Organism in an Environment

1. METABOLISM : Life sustaining process;



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So I am an organism in an environment, and as an organism in an environment, two things are happening to me: (1) It's not within my control; it's happening to me. The first thing that is happening to me is called metabolism. I have to be careful I think there are two doctors in the house.

Basically metabolism is made of 2 parts (a) catabolism and (b) anabolism.

It is about absorbing energy from the environment, converting it into energy that can be used internally and then exercising them to do some work, and eventually also releasing some energy back into the environment, one way or another. So this is happening to every single cell in my whole body. And all these trillions of cells in my body interacting through this process of metabolism give rise to the fact that, "Oh I think I'm alive." (2) But actually I only have "Consciousness", so this is the second thing that is happening to me.



WHO AM I ?



❖ I am an Organism in an Environment

- 1. METABOLISM :**
Life sustaining process;
- 2. CONSCIOUSNESS :**
Experiencing the Environment through 5 physiological senses;



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I have no control over metabolism directly, I can't stop it, and I have no control over the consciousness. Even if I close my eyes somehow I can sense light; even if I shut my ears with ear plugs I can still sense sound somehow. But we're aware of because airwave vibration comes to the skull and then also vibrates our eardrum, so I can still sense a lot of things going on. But when we speak of consciousness at the end of the day, we really only speaking of experience. So I am experiencing the environment through my five senses, that's really what's happening to me. So these 2 things happening to me; makes me have this perception that I'm alive, I'm a person, I have a "Self." And from that process, I start to personalize things in my body and my mind is mine. Things outside my body and my mind, that's not me, that's the world. So I start to have this dualistic thinking that's me and there's this world; that's what is happening to me.



WHO AM I ?



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1. **METABOLISM :**
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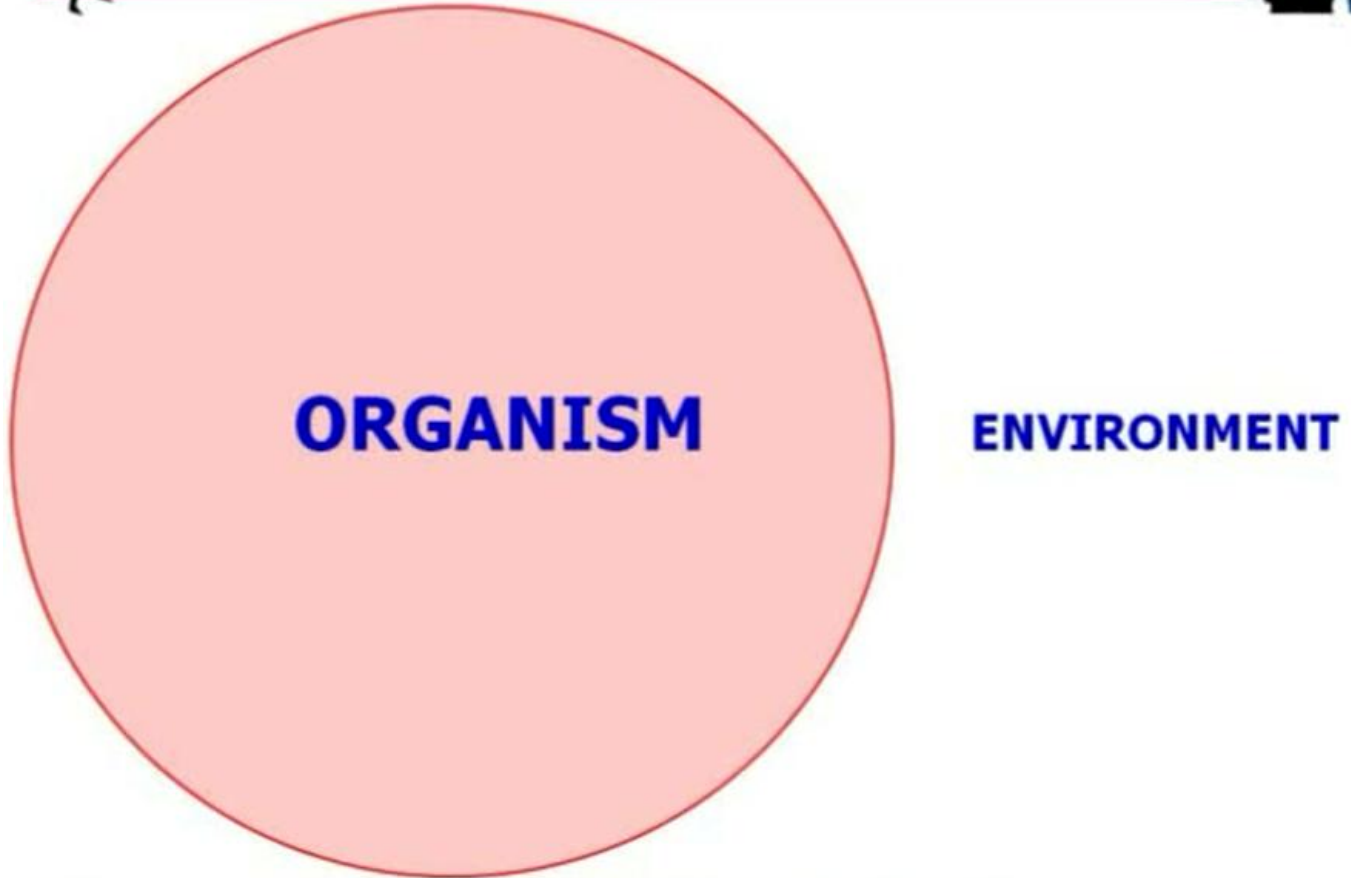
PERCEPTION, INTENTION, EXPECTATION (October 2011)

So many things happening around us; today's world is not like the world of our forefather's, not even like the world of our grandfather's; though even go back so many generations because our grandfathers if they were lucky enough to go to school, they would most likely be walking to school or riding a bicycle, and many of us, our children will be much more fortunate than our grandparents.

So with these 2 things happening to me, “I'm an organism in an environment. I begin to then start to sense what's going on in environment.”



MIND AS AN ACTIVITY



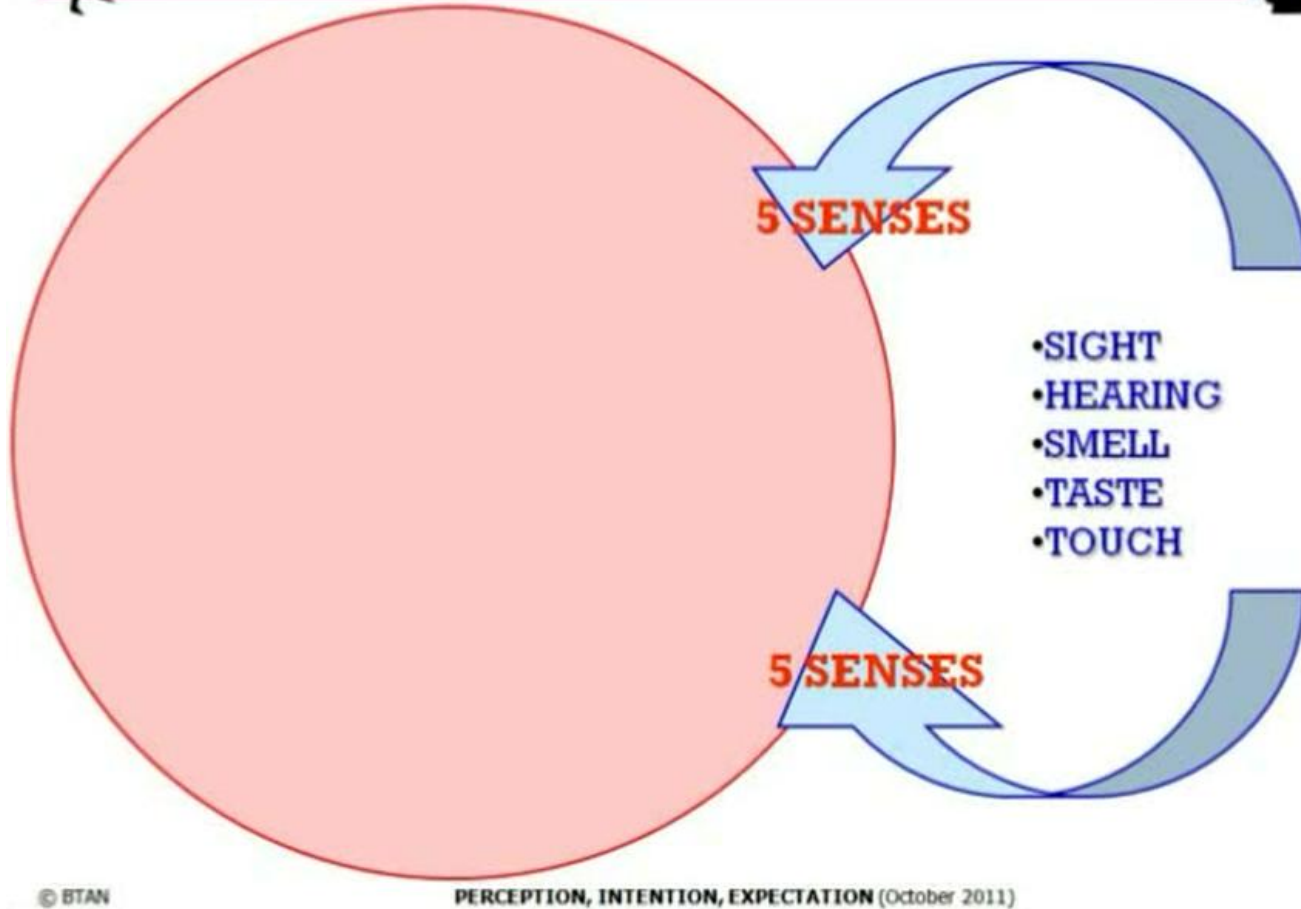
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Let's take this diagram, for instance, and consider the pink circle to be the mind and the body as one; the mind and the body cannot really be separated so to speak.



MIND AS AN ACTIVITY



So let's consider the pink circle as the mind and body of an organism, interacting with the environment, and I have these five senses that are sensing everything going on in environment, bringing tons of information into the mind; actually it's into the brain. We speak of brain when we talk about the brain; the brain is receiving every piece of information around us, but the mind unfortunately cannot process it all. We're trying to juggle about five or six tasks at the same time, trying to pay attention to five or six processes going on at the same time. But really the mind can only focus on one at a time; we break it down to such small miniscule time that because we can hit five or six things back and forth, back and forth, back and forth, that it seems like we are multitasking five or six things at the same time, but actually it's not; at any one point in time we can only focus on one thing at a time.

So you have a question. Audience: What is the mind? What is the brain?

Answer: Very simple. The brain is an organ; it is the brain and the cells and the biochemical activity going on. Brain cells communicate using two things: (1) electrical charges and (2) chemicals; that this is actively going on constantly. And all these electrochemical activities going on in the brain is giving rise to an activity we call “Mind.” So the mind is the activity, not a thing. There is nothing; that the mind itself is not an object or an entity. It is an activity, and the activity arises because of the electrochemical activity going on in the brain.

So if you think of the brain like a car. A car is a vehicle; the brain is a vehicle. The mind is the journey. The mind is the driver, getting into the car, starting the engine, and beginning to drive the car in the direction, going somewhere, whether the journey is pleasant, enjoyable, or not enjoyable, that is the mind. The journey is the mind. So if you think of the car, the car is the brain and the driver driving the car, experiencing the journey, that is the mind. So the mind is the experience. So you can think of the mind as an activity; experience is an activity.

Does that answer your question? I know some people are still bit blurred on this. Actually I have a three-part talk on this mind and brain thing. Today I'll just focus on speaking of the mind at the high-level.

So we sense the environment and all this information comes into the brain. The brain can actually detect everything. Take for example this evening you had your dinner downstairs; you came up your eyeball would have captured the image, even I, the eyeball would have captured the image of every single person in this room, that information is being sent to your brain but your mind there's this thing called “Attention System”. The mind can only pay attention to certain limited types of information by choice or even without choice; sometimes the mind gets directed to things not by choice, but whatever it is, the mind can only process a very limited amount of information. So we have no idea that our eyeball, our brain has captured the image of every single one in this room, but the mind didn't pay attention to it.

So if I ask you one simple little question: how many people in this room? Now if you don't go around start counting, you would not know, but your eyeball has captured every single face. Why can't you know that information because your mind has filtered it out? There is a process where the mind filters out information. And that filtering happens in 3 ways:

First it deletes information than it feels it is not in the immediate attention scope. It may have captured the information it'll delete it, that's what the mind does it deletes. The second thing it generalizes, categorizes, groups it together. If I say to you: how many males, how many females; you would be able to count the females and the males. But that's categorizing males and females, but females or males, we have elderly people, we have middle-aged people, we have youngsters, and we have kids. Then again we have already categorized how many males, how many females. So the mind is consciously trying to categorize; and grouping.

There is a term in Pali, where it was mentioned by the Buddha, called "*Papañca*."

"*Papañca*"

Categorizing Information in the Mind

That is the process of categorizing; it is called "*Papañca*", categorizing information.

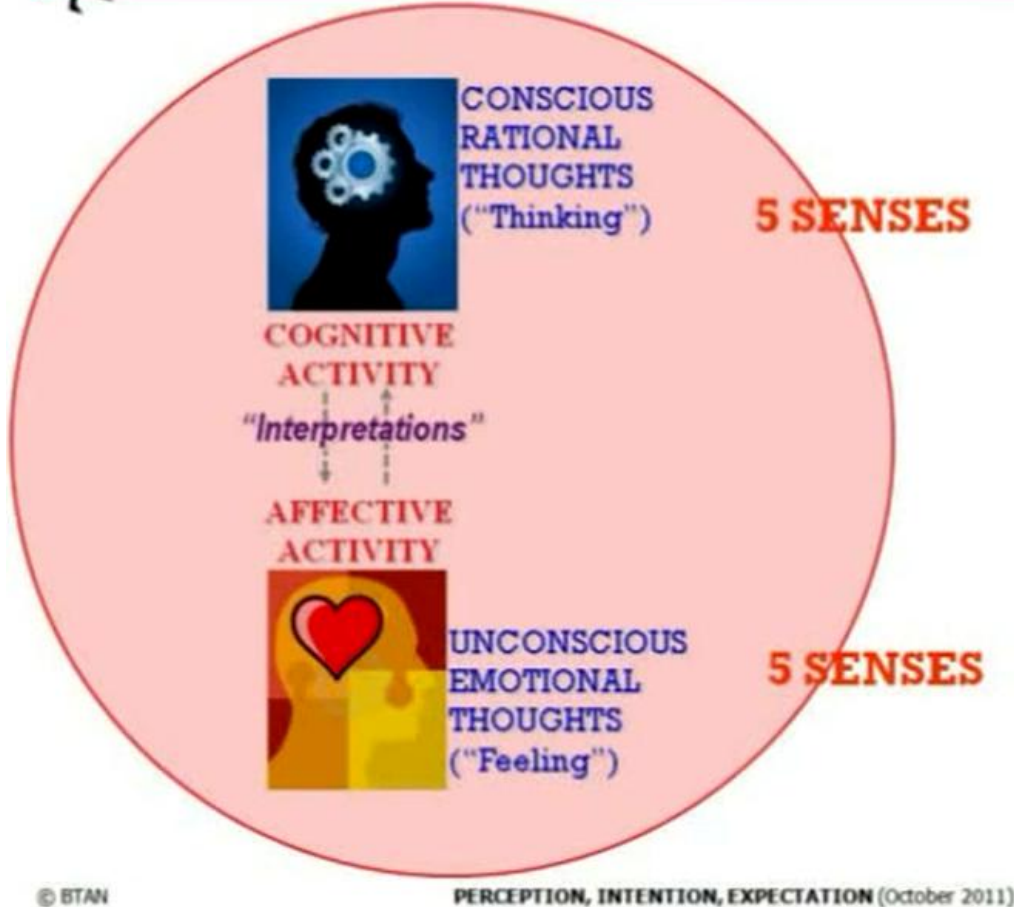
Something the mind does is even worse: distort information. And this distortion comes from two sources, not because it cannot cope with it, it simply tries to make sense of it. So 2 things are affecting the distortion (1) one is memory (2) the other one is expectation. Memory gives rise to the concept of the past. If you don't have a memory you don't have a past. Past is because of the present memory of the past; if you don't have a memory there's no past. Future is just because of your expectation; we expect to live longer. We expect to live longer than this minute, so we have a future, we are going to be alive tomorrow. We think so.

Life is uncertain; death is certain.

So we always have expectation and memory, and these are the 2 things that create the concept of the past and future. Because of that we start to personalize our own experience, and this is what gives rise to the notion of the "Self". This is why Buddha was trying to teach us, there is no "Self." "Self" is because we try to personalize everything we experience. So I will focus on the mind; I won't go into the thing about "Self" because that is quite a long talk.



MIND AS AN ACTIVITY



All this information comes into the brain and the mind tries to make sense of it. How does the mind try to make sense of it? The mind tries to make sense of it using two processes: (1) one is called the Cognitive Process. Cognitive Process is the part the mind which is able to think rationally and it is aware of its own thoughts. It is conscious, rational thoughts, that is the Cognitive Process and we call that "Thinking."

Actually in the brain we would be asking in what region of the brain that does that. Cognitive Process is actually processed in the part of the brain called the Cerebral Cortex.

(2) And in another part is Affective Activity, Affective Process.

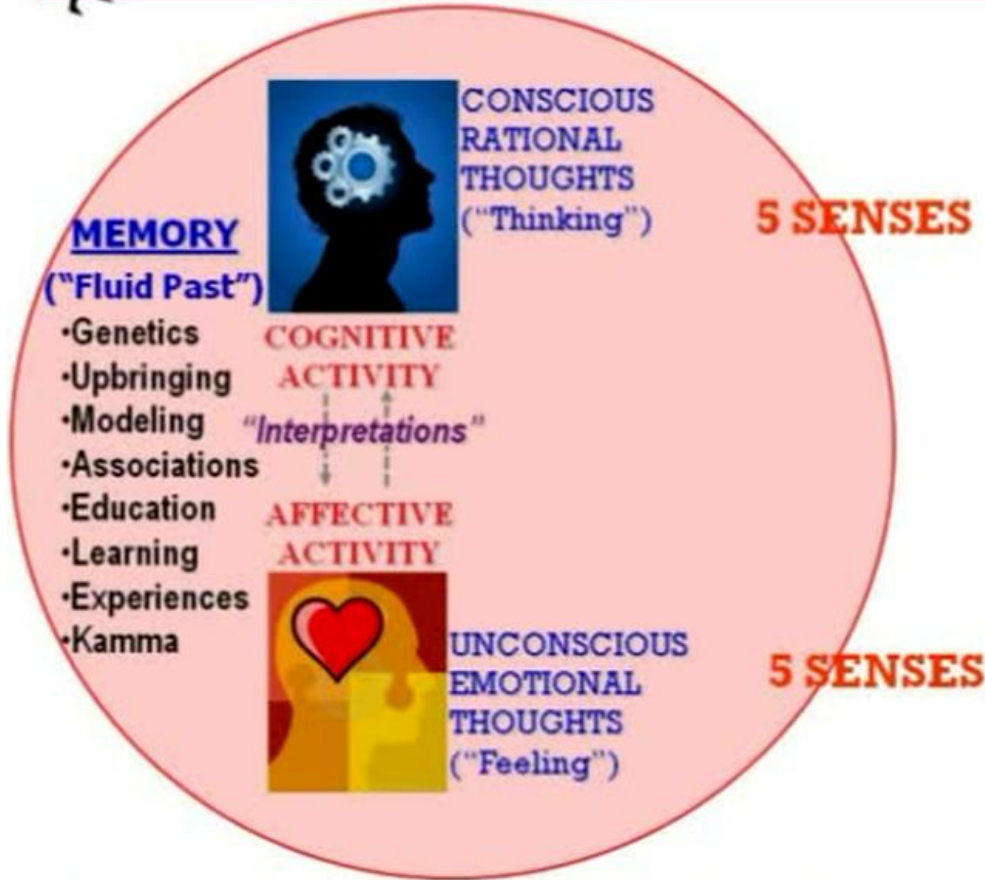
Affective Process is unconscious. It's not that we don't know about it; it's that we have no control over it arising, so we are unconscious of how it arises. So this is the thing that makes us have a feeling, this is the unconscious emotional thoughts. Again there is a specific part of the brain that is doing this which is unconscious; we have no control over it. We can only control particular thinking by constantly thinking of something. We have no control over how our unconscious part of the brain is working and that is the front of the brain called the Limbic System.

The part of the brain that is responsible for emotions is not conscious, as we really have no control over any feeling that comes up. We can deal with the feeling afterwards by using our conscious mind because if you don't use the conscious mind you will have no way of dealing with the feeling. The feeling will take over control. And if the feeling takes control, we are actually going into a state of mind like depression, post-traumatic stress disorder, things like that, if the emotional mind takes control.

So these are the two processes going on trying to make sense of all the information coming through the senses and that making sense is called interpretation; try to interpret.



MIND AS AN ACTIVITY



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What interpretation does is to give meaning to whatever we see. You see the face but you have to give meaning to a face; what is this face, then you start to give meaning, "Ah this face I have seen before." For instance, that's Robert; that's Susie. So there is this recognition; re-cognition and this is happening with the use of memory. So we have a memory which helps us do that. Without memory we will not remember who our friends are because we look at the face we've never seen this before; there's no memory of that face. So we have a memory and we call this memory the Memory of a Fluid Past.

If you can think of an experience in the past, don't even think of too far away; think of what you have for dinner just now, just that food, think about that. Stop. Now think about it again. The second time you think about it the thought is not exactly perfectly the same as the first time. It changed. Whatever that you stored in your memory is constantly adjusted and changed. Nothing is static and we learned that from the “*Paṭicca Samuppāda*.” Nothing remains unchanged; everything is subject to change. Even our memory so we call this the Fluid Past.

I consider memory as experience like this: every experience that you encounter on that moment is like a drop of water under the bridge. The moment that has just passed is gone, that drop of water gets merged into your memory. Now you have to figure out exactly, you know, what it is like. You try to recall. You try to look for that drop somewhere in your memory, but it is fluid. It is constantly changing.

Memory (“Fluid Past”)

So our memory: where does it come from?

- (1) Genetics: two cells; one from the father, one from the mother they got together. One from the father, one from the mother, they got together, and then happily we have a fetus and then so on. So genetics the genes inherited from our parents.
- (2) Upbringing is the process of growing up as you were brought up as kids and you grow up.
- (3) Modeling is when we model towards somebody we respect and love. And in most cases young kids before the age of 6 usually the parents. The girls would model towards the mother first; they always like to be like the mother. The boy would like to be like the father until they get past 6 years old; then they change.

They start to have a personality of their own and then when they get to be teenagers, 10 or 12 or 14, then they totally have their own world. Modeling is our desire to be like someone we respect or love or admire. All of us here we are modeling towards the Buddha; we want to learn from the Buddha and all the things that he has taught in Dhamma, and we are modeling towards some “*saṅgha*” that we are close to. So we are modeling constantly, even as an adult, even as elderly people. Some people model towards Bill Gates. I used to like to model towards Steve Jobs.

- (4) So Associations are the people we mix with. The people we get along with the; the people we get to know in school at work, in the temple, wherever.
- (5) And Education is not in our control. When we were brought up, at 6 years old, we were told which school we are going to. We have no idea which school it is or what the school is like. We have no control over what school we go. Our parents make all the decision. So education is basically things that are taught to you, not so much by your own choosing. They were sort of enforced upon you, but you have no choice; it is part of growing up.
- (6) And of course learning is what you choose. The fact that you're here that is part of your leaning process. The book you buy that is the learning process; the television channel you choose to watch; the newspaper you pick up to read; the internet websites you go into; the Facebook that you setup and the people you get to know. All this whole process of learning, that is by your own choice, so learning is by choice, education is what has been enforced upon you.
- (7) And we can sum all these up, after the Genetics, the rest of them we can sum it all and call it Experiences.

(8) There is one more missing from the list. Apart from all the Experiences that we've ever had, just one more missing from the list. All the Buddhists believe in, our Kamma. That can be from past life and that can also be during this life, but we have no normal way of knowing that. This is our Kamma inherited from all the things that we have ever done in the early years, as well as past life, and we have no idea about. So that is our memory of the past.

Why do I call Kamma and Genetics memory because it is recorded somewhere in there. If it is not recorded then people cannot go into the past life. It is somewhere in your body; somewhere connected to you in one way or another. It has been recorded exactly where and how, I'm not an expert in that theory, so I won't be able to do that. Genetics that is recorded of memory map of half from your mother, half of your father; it is a memory map of behavior pattern, and it also includes behavior that now we call instinct, that has been transmitted one generation after another. A few instincts; I am not talking about the instinct during this talk.

One simple instinct is the instinct of fear. When you see something coming towards you very quickly, you have a very natural reaction to be afraid of it, and that reaction is controlled by a part of your emotional brain, it is called the Amygdala. So that controls this fear reaction, and the Amygdala detects this as a fear because it is recorded in the genes past from one generation to another, this is instinctive fear that is passed on. So Genetics is passing on instincts that may have come from thousands of years, even millions of years, even going back to the days before we were Homosapien. Some instincts were acquired before we begin the human species, and that is going back more than 2 million years ago; quite a few instincts going back that far. The fear itself is one of them. The seeking of food that is natural instinct, that also goes back to the days when we were animals, trying to look for foods and so on.

So that is memory. It's the Fluid Past. Whenever we observe something, we perceive something, it goes to our memory to try to make sense and interpret it. And in the process of that interpretation, we then start to have an idea of who we are. So let's take a look at the first video: Who we are.



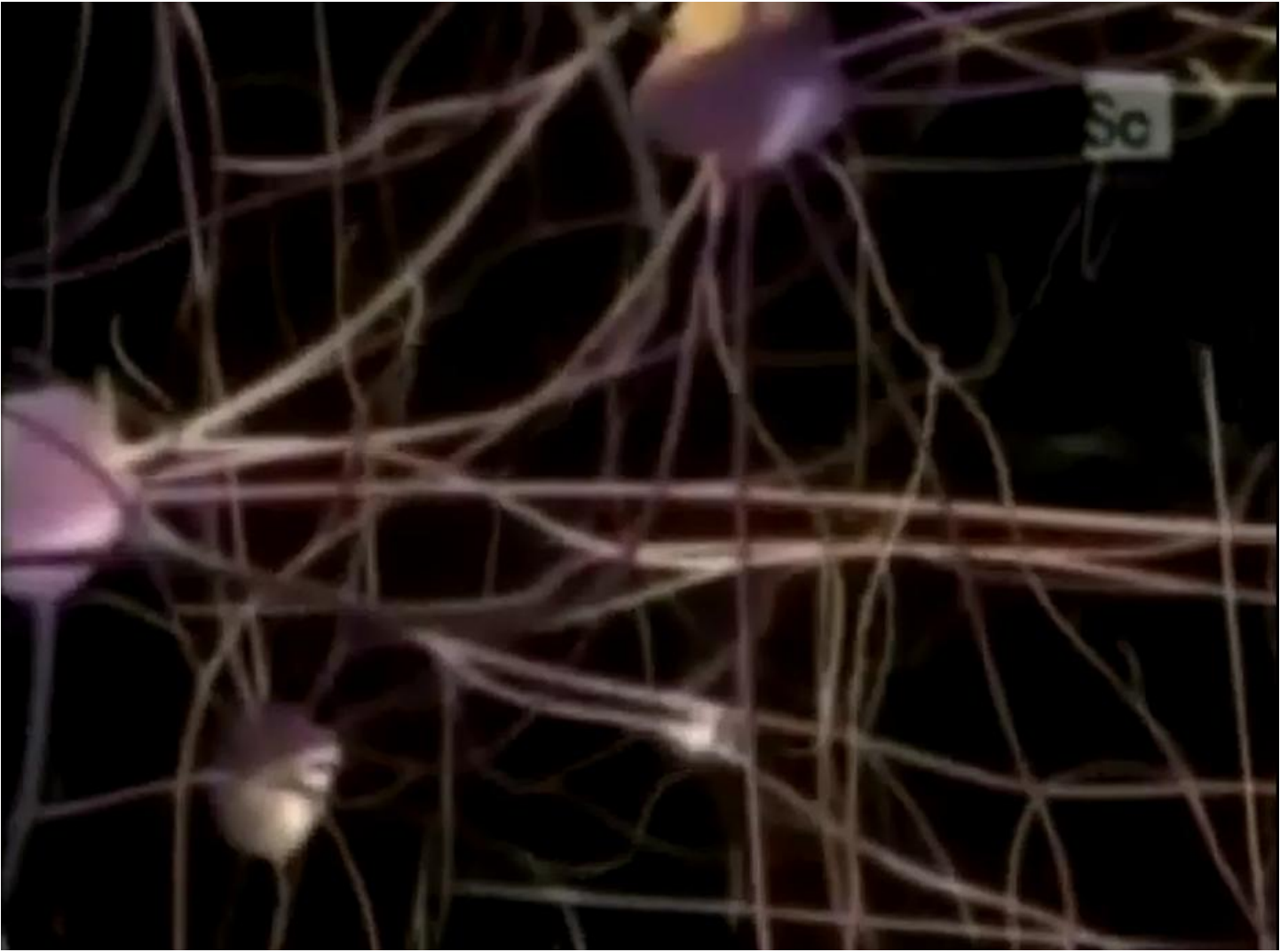
It begins with a few cells at the tip of an embryo.



Brain cells, neurons, multiply at an astounding rate 250,000 a minute.



At only 5 months, this fetus is well on its way to developing most of the neurons it will ever have, about 100 billion.



But it's not the number of neurons that make the brain work so brilliantly, it's the fact that they communicate with each other. Each tiny neuron can make up to 10,000 connections. When neurons connect, network starts to form, allowing electrochemical messages to pass between them. In a couple of years, those 100 billion neurons will make one thousand trillion connections.



We've known for decades that genes dictate the basic structure of the brain's networks, but what we started to understand is that it is our experiences that complete the brain and make us who we are.

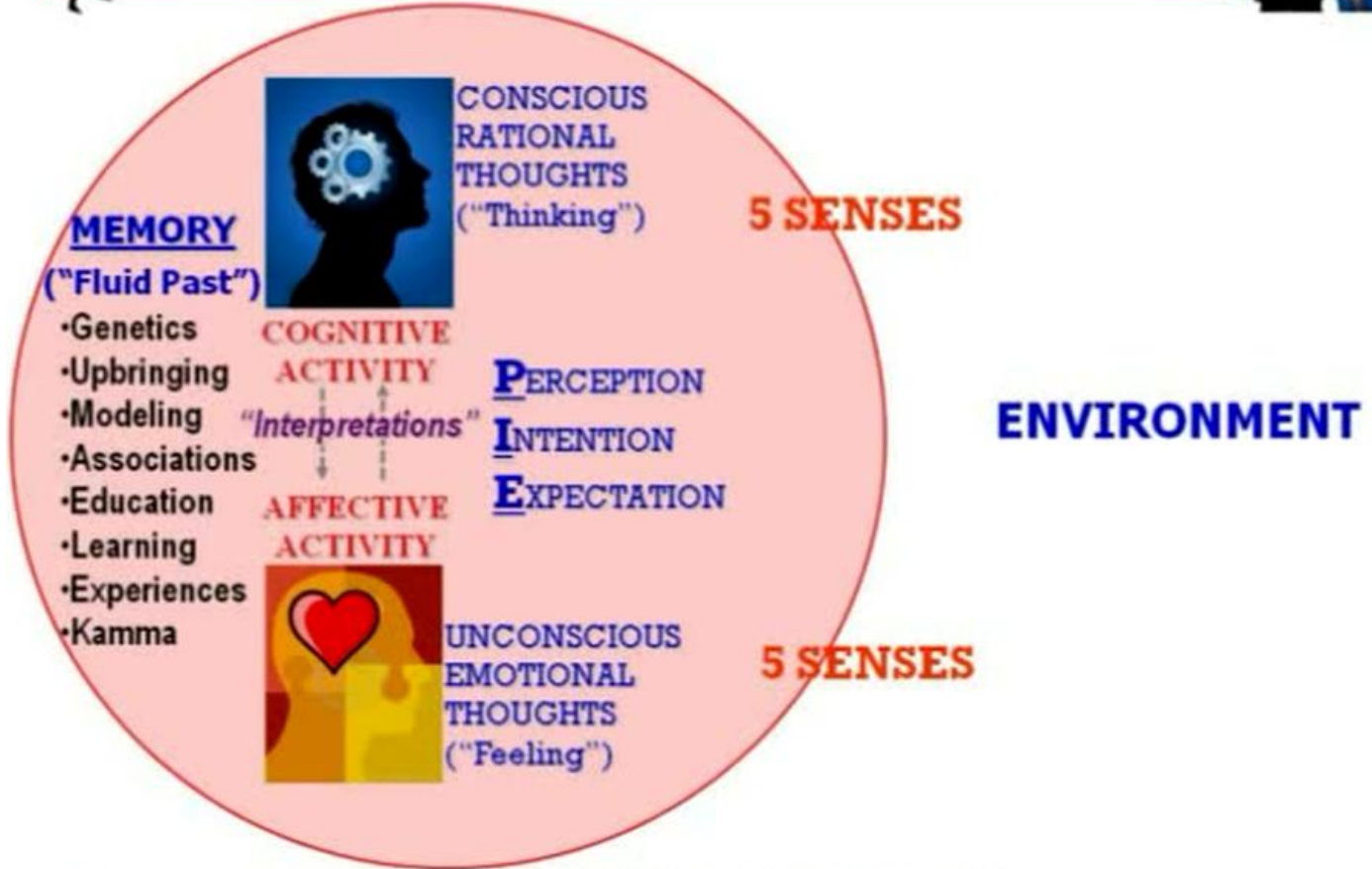


Sensation, movement, and even play, shape a child's brain; each experience reinforces some connections. These are the one that will be retained throughout life, creating our senses, our ability to imagine, to learn, even to love; in other words, that make us who we are.

It is brain connections that are being reinforced every time you experience something, and we experience something very similar or the same thing like practicing the violin or practicing the piano or gymnastics or driving a car. We're reinforcing the same connections; the more we practice the more we reinforce, the more we reinforce, it becomes more automatically, built into our behavior. And instincts are reinforced like that.



MIND AS AN ACTIVITY



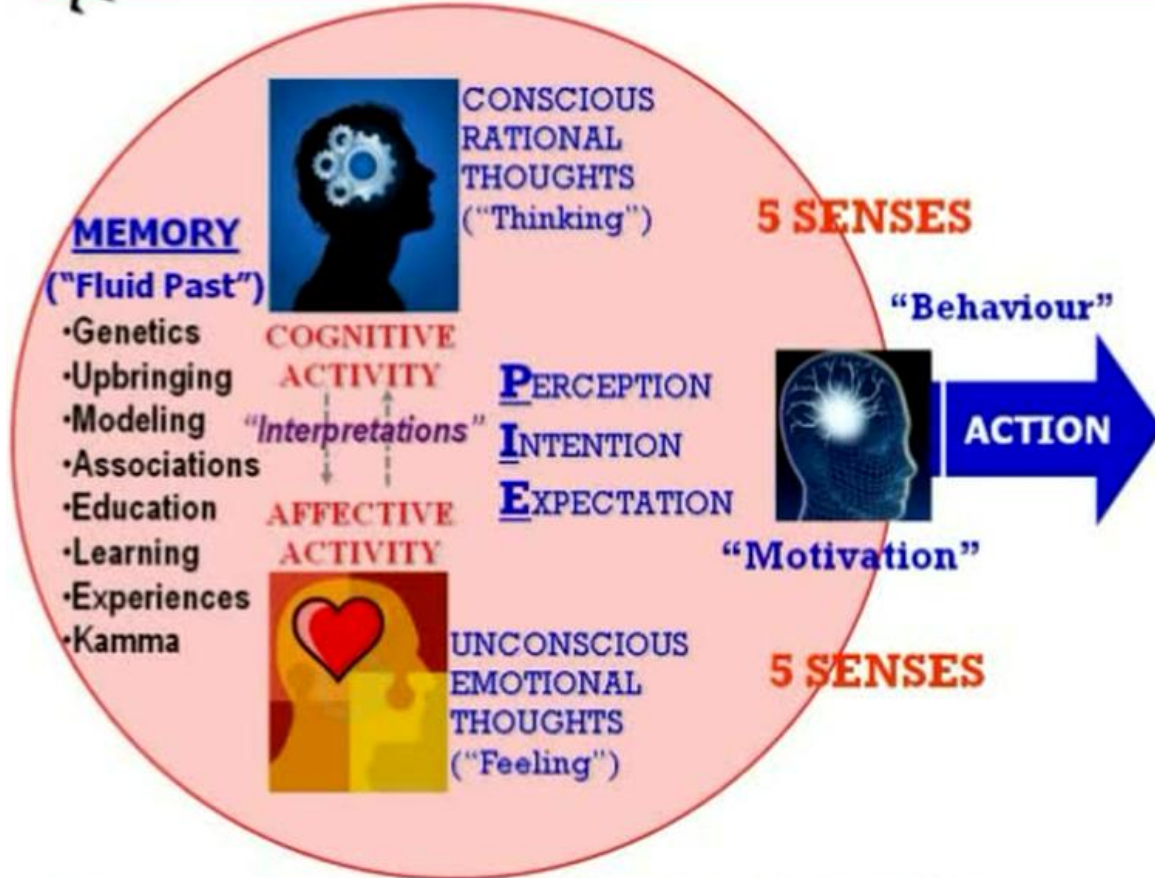
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PERCEPTION, INTENTION, EXPECTATION (October 2011)

So as the result of all these, we start to have this thing called perception. Perception in this case, I mean, an idea of what is out there, the idea of the environment. There's a perception of what is out there; there's a perception of what is in here in my body and my mind. And with this perception it triggers an intention: I really want to do something; I can't just sit still and breathe air and not do nothing; I have to do something; I got to eat; I got to find food. I got to do something. So this one thing we do something is called Intention. But every time we have a perception, an idea, and we want to do something about, we always have an Expectation. We always expect something that we can get something out it. We hunt animals because we expect to get food; we expect to fill our stomach; we expect to feed our families. We go to work because we expect to get a salary.



MIND AS AN ACTIVITY



Sometimes when we do a favor for a friend, we expect something from the friend, expect that he would help me the next time or expect that he feels indebted to me, and that's not very wholesome but we have it. Like it not we have Expectations.

And then you start to have this idea of the environment: Intention of something, I want to do about it, and an Expectation, so that actually gives rise to the Motivation to take Action. So there is a Motivation to take Action, to do something. And this action that we do is seen by other people as Behavior. So in another word, Behavior is what people see all you are doing. They have no idea what is in your mind.

Your Intentions and Expectations may not be consistent with your Behavior because it's altered by Perception. Your Expectation may not be seen in your behavior because you have certain Expectation that people don't know about. All that collectively we call the P.I.E the principle: Perception; Intention; Expectation. The important thing about Buddhist teaching is that it teaches us to have wholesome Intentions; Pure Intention.

Pure Intention

So what is a Pure Intention? I'll give you a very simple example. When a friend comes and says he needs to borrow some money from me, maybe he's out of a job, he needs to feed his family, and he comes to me and asks me to lend him some money. So I lend him some money. If my Expectation is consistent with my Intention, then I have Pure Intention.

My Intention is to lend him money, but I expect him to feel indebted to me, I expect him to feel gratitude, well of course I expect him to pay me back the money, but I expect something else. Paying back the money is consistent with the Intention; I lend you money you pay me back one day. That is consistent. But I lend you money I expect you to feel grateful to me, you feel you owe me something, not just the money but you owe me a favor. Then my Expectation is not consistent with my Intention. My Intention is to lend you money, my Expectation is you feel grateful to me, you feel you can get it to me, so I don't have Pure Intention.

So what is Pure Intention? Pure Intention is when I lend you money, the only Expectation I have, besides you paying back to me, the only other Expectation I have is that when I lend you money, you use that money to help and solve your problem and you are happy and well afterwards. Then I have Pure Intention. The Intention is Pure. I lend you money; my Expectation is you use this money to solve your problem because the reason you come to me to borrow money is because you have a problem. So now I lend you money my Expectation is you use that money to solve your problem, consistent. That is Pure Intention.

Impure Intention

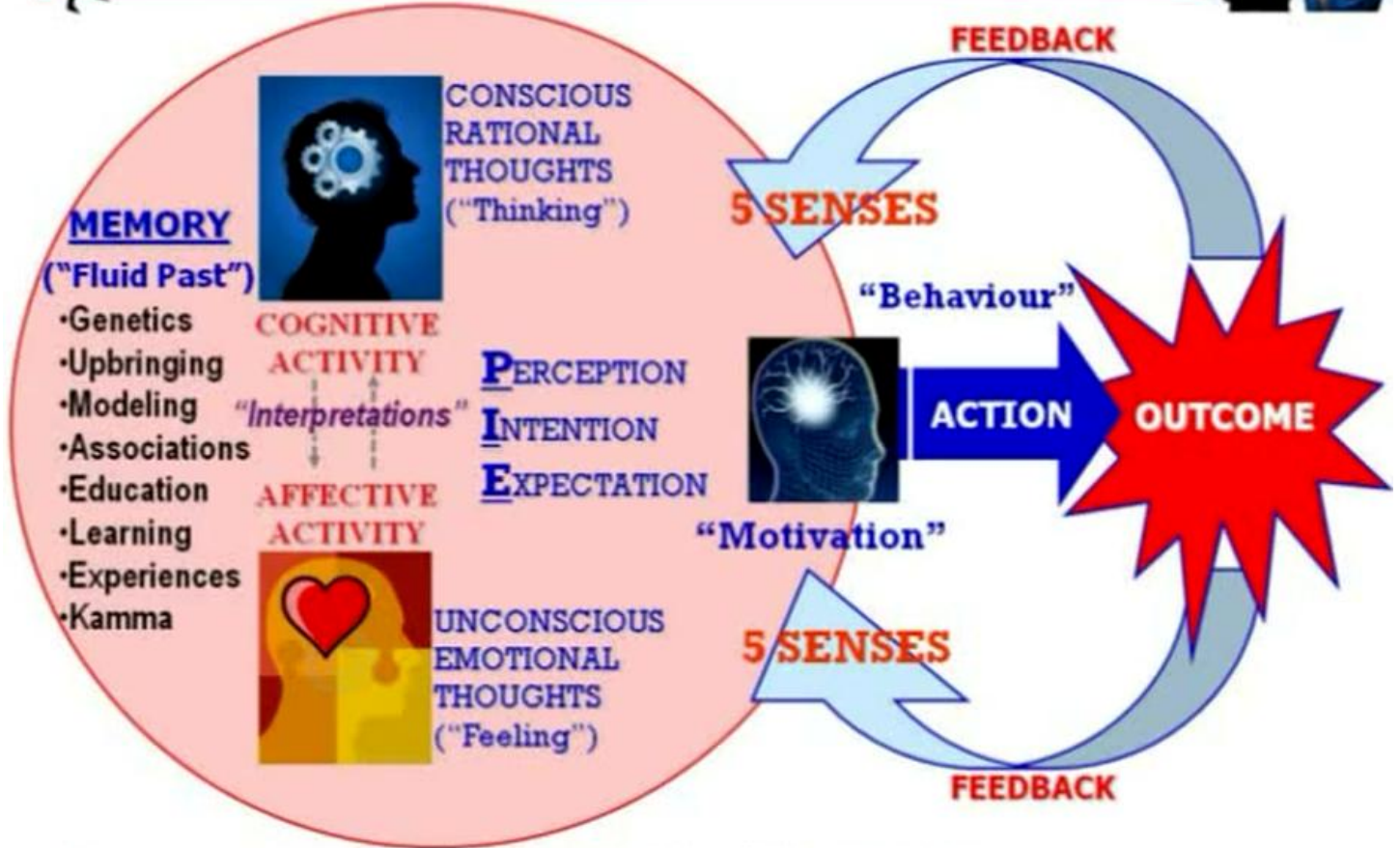
If it is not pure, then it means I am expecting you to owe me a favor, you feel indebted to me, something comes back to me, then I'm self-centered and this is not Intention anymore. We call it Motive. If I lend you with an Expectation not consistent with the Intention it is called Motive. There is no such thing as Pure Motive.

There is only Ulterior Motive. No! There is no Wholesome Motive; Wholesome Intentions. Anybody has heard of the word Wholesome Motive? Anybody heard of Pure Motives? Motives are impure, that means Expectation is not consistent with my intention. That is a Motive. So if I help you purely hoping that you get the help you need and solve your problem, then I have Pure Intentions. But if I help you for any other reason, then I don't have Pure Intention. It is one way or the other; there is nothing in between.

There is no half way. Some people try to justify it. I am helping him you know, so I deserve to feel gratitude from him. Nobody deserves anything. You basically either help him out with the Purity of your Heart, Purity of Intention, or you have an Ulterior Motive, simple as that. So it is the question of your Expectation. And very often it is Expectation that brings suffering to both parties: to the person who is helping and the person who gets help because this Expectation is putting a strain on the relationship. So Expectation is the thing that really causes us a lot of pain and suffering in this world. So that is basically Perception, Intention, and Expectation; motivated to take action.



MIND AS AN ACTIVITY



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And every action has some kind of Consequence or Outcome. So when you take action in the environment something happens and we sense this thing, we see it happen. If somebody let's say if somebody shouts at us, we get upset and we shout back at them, and then they even get more angry. We can actually see the anger in the face.

Or we can look at the good situation; somebody who doesn't have food to eat, I take food from my home give it to that person, and I can see the person is now solving his problem of not having food, so I can see it happening. So all this comes back to us as Feedback; Feedback from our own action.

Now I will go into a Buddhist perspective of this whole thing. So far I have spoken mainly from the psychology perspective.

Let's talk about the Buddhist perspective: the Process of Experience.

What is it like if we speak of the Buddhist perspective? What is the Process of Experience, which is what I have just said earlier on about the Buddhist perspective?

I would like to say I learned it from Bhante Punnaji. Now one thing I want to make also very clear. I am not well-versed in Sutta. So I'm not an expert in Sutta. I am not really a Dhamma speaker, but I have used a lot of things that I have learned in psychology and neuroscience, connected with the teachings that I received from Bhante Punnaji. And some of them are amazingly very well consistent.

Bhante is so happy today every time he gives his Sutta class every Monday evening, I am the one helping to setup the PowerPoint and actually offer him all my videos because I have a very huge collection from my years as a trainer; a huge collection of videos from the world of Science, Neuroscience, and Psychology and I do that. So actually it is very consistent, the things that I have learned in my professional field and the things I learned from Bhante.



THE PROCESS OF EXPERIENCE



The reaction to stimulus is a chain reaction – a series of reactions:

1. Process of Perception (*Viññāna*);
2. Cognitive Process (*Mano*);
3. Affective Process (*Citta*):
 - The organism normally **reacts** unconsciously (irrationally) to stimulations from the environment;
 - Emotional Arousal (*Tanhā*) is the unconscious bio-chemical reaction in the organism which gives rise to "tension in the body" that is unpleasant and uncomfortable (*Dukkha*);
 - The organism releases tension in action (*Kamma*) to overcome this discomfort;

So this basically our work together and we have come up with this: the reaction to stimulus is a chain reaction, it is a series of reaction. It is not just one reaction, one thing leads to another. The first thing is this thing called the Process of Perception. And the Pali word is "*Viññāṇa*."

Now take note of the first 3 terms: (1) "*Viññāṇa*" is the Process of Perception. I'll explain that in a moment. (2) The second one is "*Mano*" which is the Cognitive Process. (3) And the third one is the "*Citta*" which is the affective process.

Process of Perception is basically forming a perception in the head which is just an idea something is out there. There is no meaning; it is just an idea that something is out there. The sense organs have told me there is something out there. I touch something, I see something. But I don't know who it is yet, so that sensing is the Process of Perception called "*Viññāṇa*."

Cognitive Process is, I take that information and I start to process and check with my memory, "Have I seen this before? Who is this?", and then I start to "re-cognize", recognize what I have seen, that is Cognitive Process. But in this whole process of Cognitive Process, at the same time, without us knowing number: 1 (*Viññāṇa*), 2 (*Mano*), and 3 (*Citta*), that is happening at the same time. Actually scientifically number 3 (*Citta*) happens first. In terms of the brain science, number 3 (*Citta*) happens first, but I'll talk about that later. At the same while I am trying to make sense of what I am seeing there is an Affective Process that I am not aware of. It is triggering biochemical reaction in my body, so the organism starts to react unconsciously to stimulation to the environment.

"Unconsciously" meaning I am not aware of this reaction at the time it starts. I am only aware of the effects afterwards. Then it starts to create an arousal and this emotional arousal is called "*Taṇhā*" in Pali. It is the unconscious biochemical reaction in an organism which gives rise to this tension in the body, which causes discomfort, displeasure. And this discomfort, this displeasure is "*Dukkha*."

It is not really suffering so to speak because sometimes it may not be suffering. This discomfort and unpleasantness can sometimes also be when you're having fun. Let's say we try to do bungee jumping for the first time or try to do paragliding or try to learn how to ride a motorbike for the first time, there is a bit of a fear because we've never tried it before, but it's exciting. Trying to bungee jumping; it is very exciting; trying to jump out of a plane with a parachute, very exciting. But somewhere in that excitement there is a lot of tension, a lot of fear, so all that is actually "*Dukkha*," uncomfortable, whether we like it or not that's tension.

And then tension is forcing us to release the action, getting rid of the action, that is try to get of rid of that we find uncomfortable. Everything actually causes some kind of discomfort, and we have a natural tendency to react. And this tension and action is called "*Kamma*."

Of course, a lot of Westerners and a lot of people that are not well versed with Buddhist teaching, they think "*Kamma*" is like you to do something bad, something bad will happen to you, that is not, that is "*Vipāka*." "*Kamma*" is the cause if you think of it like that. "*Kamma*" is action you do which causes some consequence and the consequence is "*Vipāka*." I will cover that in a moment.

So this is the Effective Process going on. The Effective Process is normally happen to most of us if we don't do mind training, we don't do meditation, we don't do mindfulness. But if we are mindful, then we are rational.



THE PROCESS OF EXPERIENCE



The reaction to stimulus is a chain reaction – a series of reactions:

1. Process of Perception (*Viññāna*);
2. Cognitive Process (*Mano*);
3. Affective Process (*Citta*):
 - The organism normally **reacts unconsciously** (irrationally) to stimulations from the environment;
 - Emotional Arousal (*Tanhā*) is the unconscious bio-chemical reaction in the organism which gives rise to "tension in the body" that is unpleasant and uncomfortable (*Dukkha*);
 - The organism releases tension in action (*Kamma*) to overcome this discomfort;
4. The rational organism delays the reaction, allowing sufficient time to decide ("intention" – *Cetanā*) whether to release the tension in action, or to **respond** rationally to the situation;
5. There are internal as well as external consequences to every action (*Vipāka*).

So the rational organism delays the reaction. Stop doing it; wait a minute; I'll think about it. Is this the right way I should react? How should I react? If somebody shouts at me, how should I react? So the organism actually delays reaction and allows sufficient time to think about it, and this thinking about it gives rise to a decision and that decision is the Intention. Intention is "*Cetanā*." So that decision, whether or not to release the tension in action or to respond to it rationally. So therefore a trained mind would be behaving like number 4 (*Cetanā*), and an untrained mind will tend to behave like number 3 (*Citta*).

And finally everything you do there are consequences: internal, which is happening inside your body and your mind; as well as external, which is happening just outside your body and your mind. So we will cover all these Five Points.

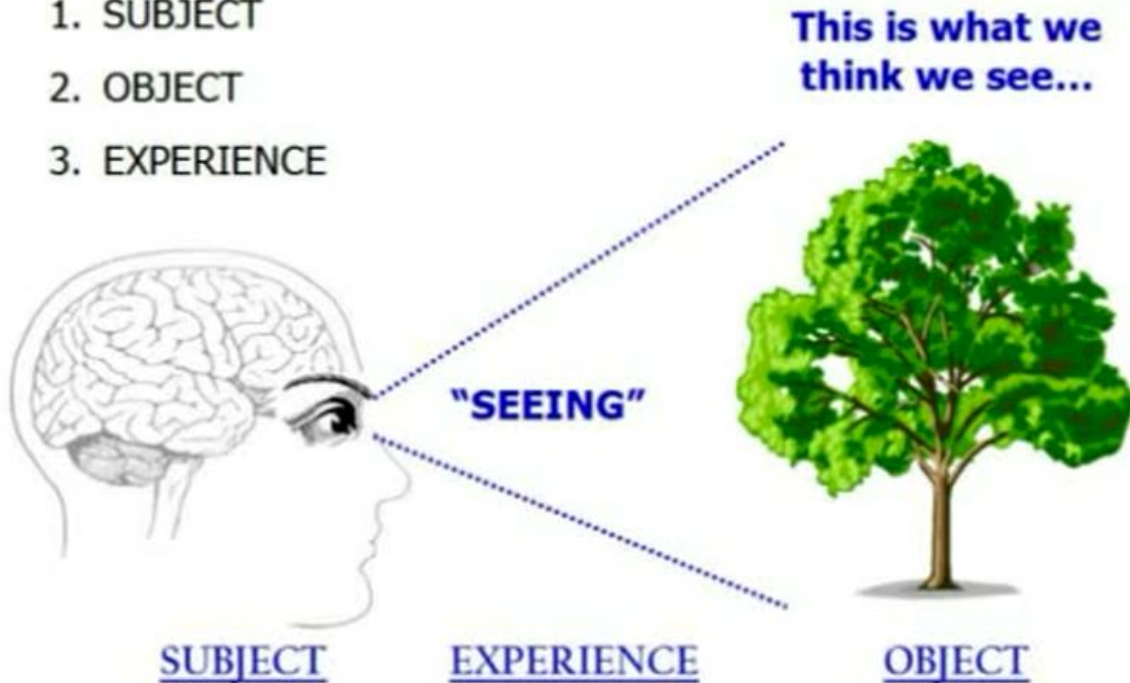


CONSCIOUSNESS



- There are 3 parts in the Experience of Consciousness:

1. SUBJECT
2. OBJECT
3. EXPERIENCE



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First point, Process of Perception; what is it? Normally when we think of perception we are looking at something. Let's take a simple example, looking at something, looking at a tree; this is what we think we are seeing. We think we see an object out there. The "seeing" is the experience and we are the Subject. So all experiences, all consciousness experience can be seen as three parts: (1) the subject which is the "seer", (2) the object which is the thing that which is being "seen", (3) and the "process of seeing". So the "seer", the "seeing", and the "seen"; this is what we think it is, but actually we learn there is actually nothing out there which is defined as a tree, it is just a bunch of molecules.



EXPERIENCE OF CONSCIOUSNESS



- There are 3 parts in the Experience of Consciousness:
 1. The SUBJECTIVE
 2. The OBJECTIVE
 3. The PROCESS OF EXPERIENCE



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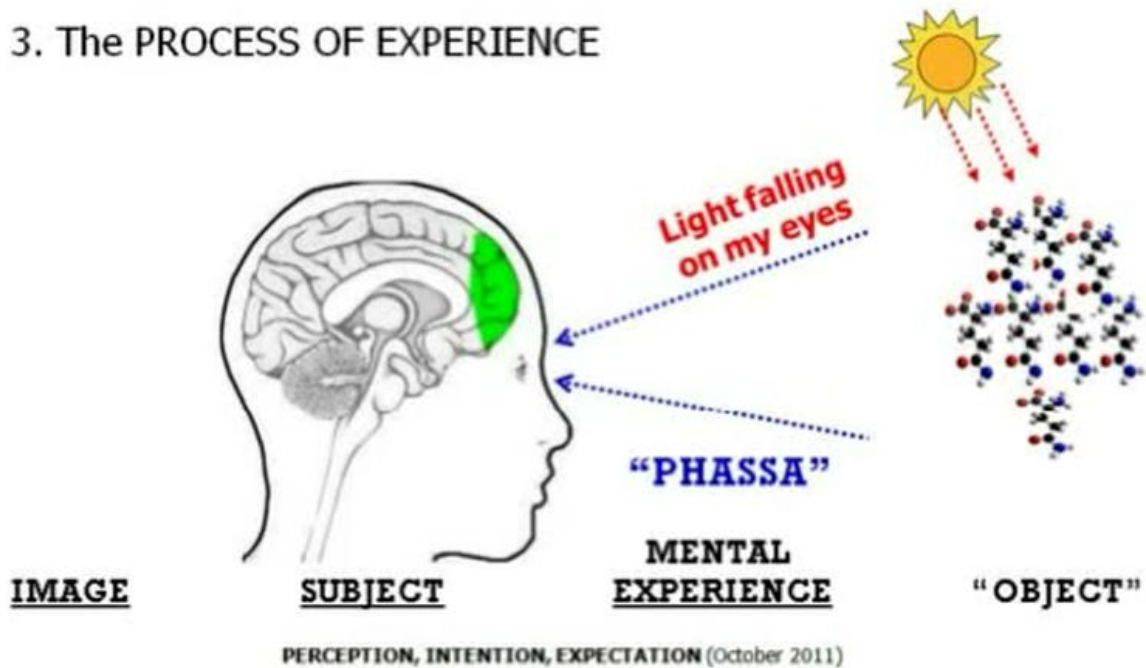
It's nothing but a bunch of molecules out there and what is happening in the process of seeing is there is light shining on the molecules on the surface of the tree which is made up of molecules. Molecules made up of atoms



EXPERIENCE OF CONSCIOUSNESS



- There are 3 parts in the Experience of Consciousness:
 1. The SUBJECTIVE
 2. The OBJECTIVE
 3. The PROCESS OF EXPERIENCE



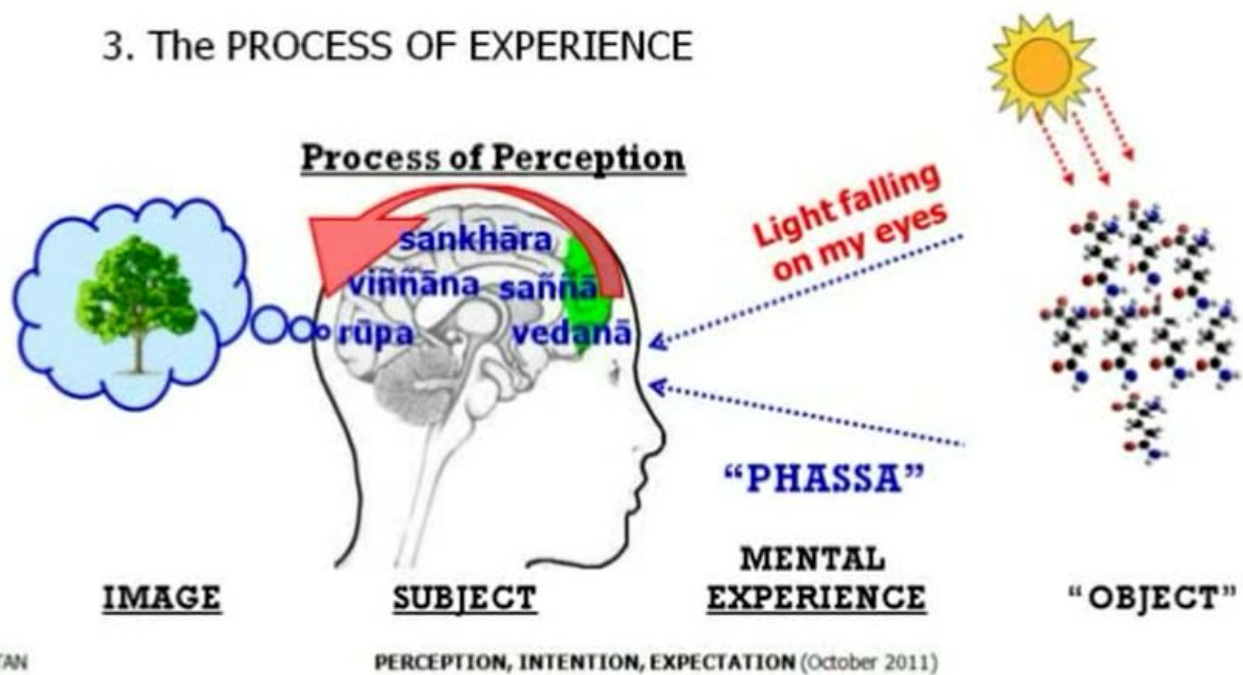
And it is reflecting light in to my eyeball and light falling into my eye is triggering a lot of reactions going on a lot things happening.



EXPERIENCE OF CONSCIOUSNESS



- There are 3 parts in the Experience of Consciousness:
 1. The SUBJECTIVE
 2. The OBJECTIVE
 3. The PROCESS OF EXPERIENCE



And it is triggering the Process of Perception. And this Process of Perception is "*Vedanā*", "*Saññā*", "*Saṅkhāra*", "*Viññāṇa*", and "*Rūpa*". And after it has reached that point, we then have a mental image of the tree, a mental image of whatever where light is reflected and comes to my eye. Everything depends on conditions. This process of seeing depends on a lot conditions. If any one of the conditions is not there, we will not be seeing a tree. If there is no light, pitch dark, the tree is right in front of you, completely pitch dark can you see the tree? No. So it depends on light shining on a tree. If somebody covered up the tree and it is not reflecting light towards you, can you see the tree? You will see something else. Light coming into my eye; if I close my eyes, can I see a tree? No! I open my eyes, I can see the tree. If I am blind can I see a tree? No. A blind person cannot see a tree.

So this Process of Experience requires so many conditions, and all these conditions then give rise to this whole Process of Perception, and then in my mind there is an image of a tree. I might not know what kind of a tree yet but there is an image of the tree.

Or in the case of going down to the shopping mall there is an image of a neighbor who happens to walk by. I have captured the image of the neighbor. So at this point in time, when we speak of the Process of Perception, we are only talking about an image being formed in the head. So let's take a look at this Process of Perception a little deeper from the Buddhist perspective.

It is called "*Pañca-Khandha*." "*Pañca-Khandha*" in many cases people call it the "Five Aggregates." Now one thing I want to say, this it is very important because some of the thing I mention you may hear differently from other speakers. Bhante Punnaji himself is actually a very knowledgeable, very knowledgeable Pali scholar. He took the original Pali Canon and translated word for word from there, without referring to the Western translations done by the Pali Text Society. Because the Pali Text Society translated by Europeans who were originally didn't have the experience as the Buddhist and who used interpreters in order to understand a lot of the words. So Bhante actually translated it as and says "Aggregate" is not the correct word because when we think of "Aggregate" we think some kind of averaging. You know that process we average something out. It's actually cumulative; it is cumulative. It cumulates this Process of Experience that cumulates the perception; it cumulates.



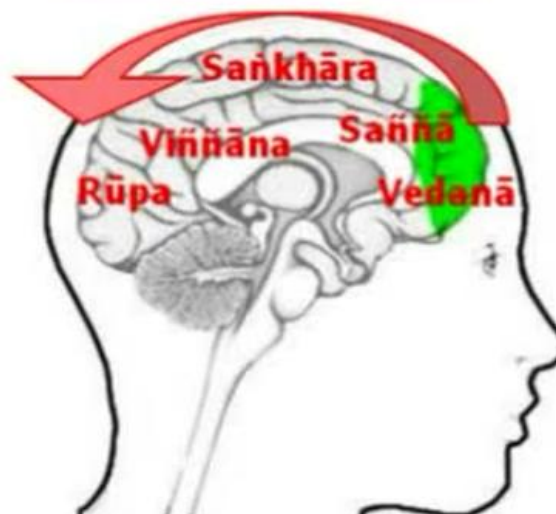
PROCESS OF PERCEPTION (Pañca khandha)



THE 5 CUMULATIVES ("the 5 aggregates") :

- Feeling (*Vedanā*)
- Sensation (*Saññā*)
- Mental Construction (*Saṅkhāra*)
- Perception (*Viññāna*)
- Mental Image (*Rūpā*)

Process of Perception



So it is made up of five stages: (1) Feeling "*Vedanā*", (2) Sensations "*Saññā*", (3) and mental construction "*Saṅkhāra*", and this is the one I'm talking about scientist have only begun to discover this less than a hundred years ago that is happening in our mind, the mental construction, and I'll show you some videos in the moment, (4) Perception "*Viññāna*", (5) and finally the image that is formed, "*Rūpa*".

If you look through the Buddhist text, you will find the word "*Rūpa*" coming in front of the brain. And the word "*Rūpa*" is translated by people who say object, form. Form is an entity; it is an object; a form some kind of entity. But we learn there is no entity. It is just experience. Everything happening is activity and experience. There is no entity. So when we detect, we detect something coming to our eyes.

"*Vedanā*" and "*Saññā*" go together, they cannot be separated. This is the sensation of detecting something, and this is a feeling whether this thing that I have just detected feels pleasant or not pleasant, without meaning no association yet.

Take for example you look at the object the light. Is this light hurting our eyes? That's what it is. So whether it is pleasant or unpleasant, "*Vedanā*": is this light too bright? Is this color soothing to me?

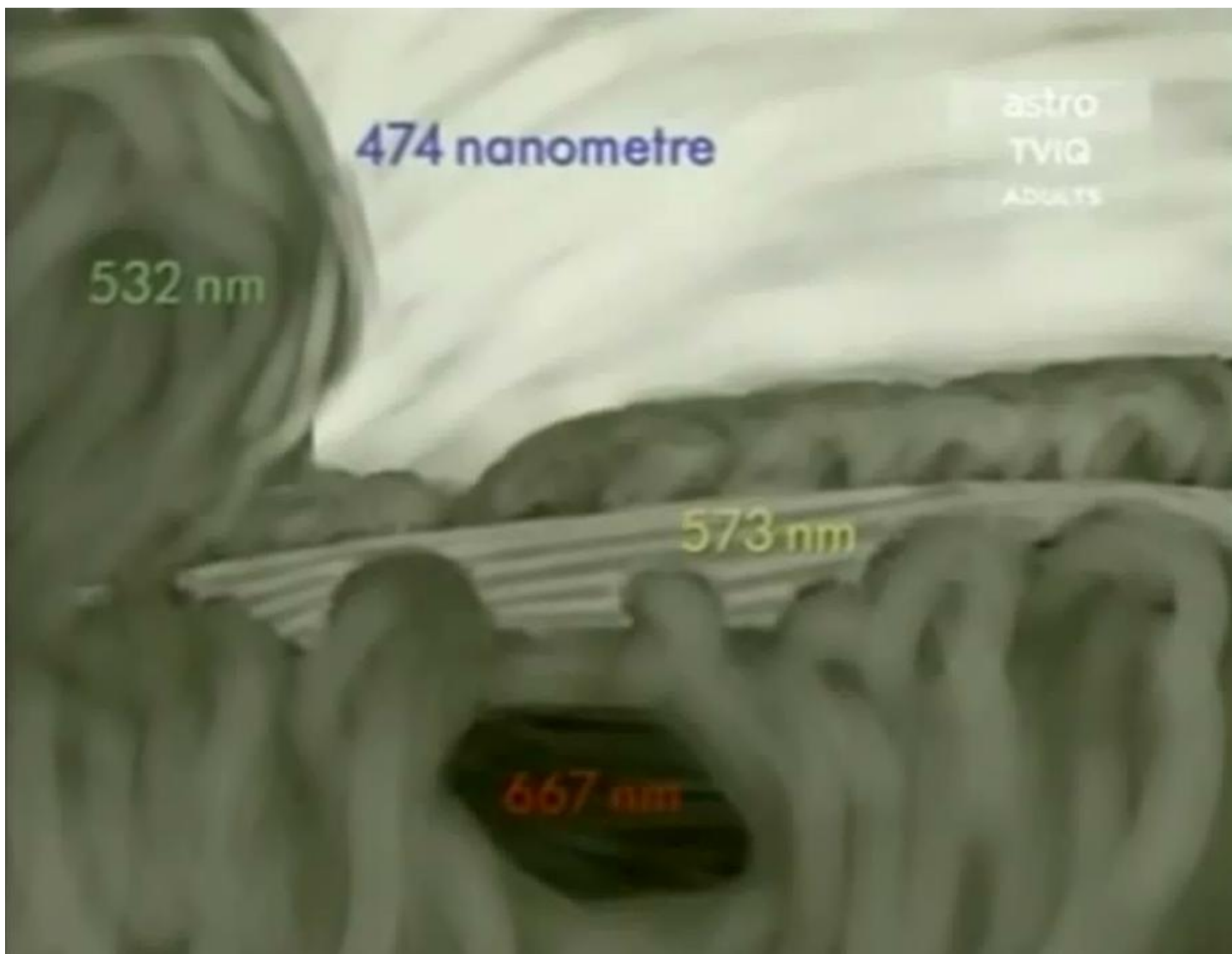
Whereas sensation, "*Saññā*," is what color is it? I have a video in a moment and I'll show that.

And then construction, "*Sañkhāra*", builds up to some kind of a perception. Construction is the process that takes all the bits and pieces builds it up into a perception and that perception gives rise to the mental image in our mind.

So let's take a look at the explanation of "*Vedanā*" and "*Saññā*" by using a video from psychologists. Basically they are talking about, the "*Saññā*," is the frequency of the light so it gives rise to a notion of what color it is. The "*Vedanā*" is whether or not it hurts us or it is pleasant to the eyes.



Some scientists claim the simple act of seeing a color triggers a spontaneous reaction in the nervous system; this is automatic.



It isn't caused by any association, but by the wavelengths of the color.



Objects reflect light in different wavelengths. Our brain interprets these wavelengths of different colors, from blue the shortest wavelength to green and yellow to red, the longest.



The long wavelengths, the reds and oranges are set to arouse the nervous system; heart rate and blood pressure increase.

astro
TVIQ
ADULTS

VEDANA = Feeling of the colour sensation in
terms of pleasant, unpleasant, and neutral

The short wavelengths, the blues and violets, are meant to relax the nervous system

"Saññā" is the different color that we detect and "Vedanā" is whether it is pleasant or unpleasant. So that is the Process of Perception.

Now we talk about mental construction "*Saṅkhāra*".

Buddha actually meant mental construction and I think a lot of people misunderstood the meaning.

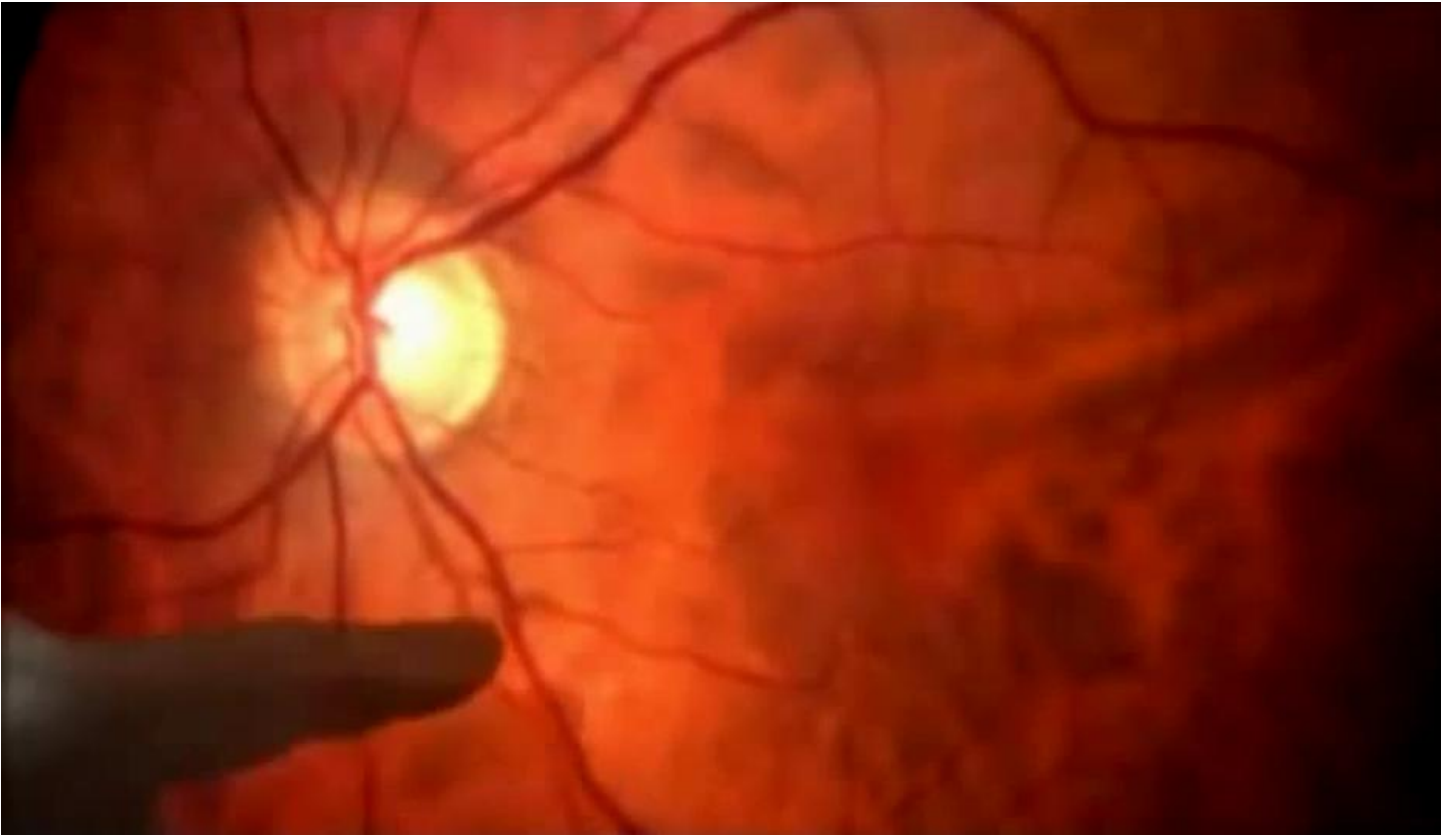
When we see something, we do not see the whole image. I see a person; I am not seeing the whole of the person. What I am seeing, my eyeball is darting around with hundreds of millions of light sensitive cells in the back, picking up bits and pieces of the person's image.

In another word, we see in jigsaw puzzle. We collect all these jigsaw puzzles into the mind or the brain in this case. The brain processes it and assembles and constructs.

So there is a construction process going on, picking the bits and pieces of light pixel. In another word, I am looking at a person like in a pixel, pixel form, not the whole image, and then it is constructed into an image in the mind



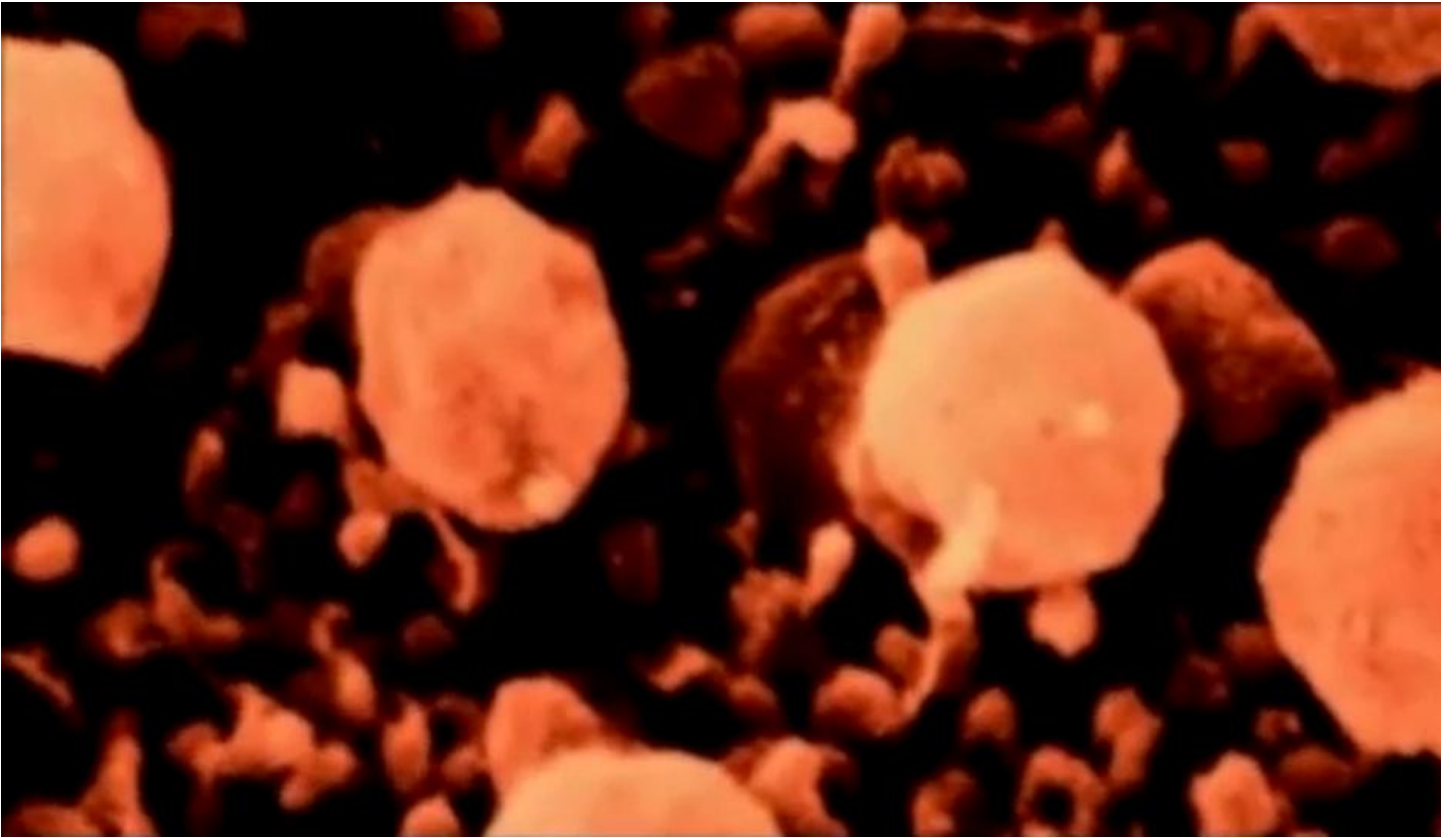
Ophthalmologist Dr. Bill Aylward takes a snapshot of the back of the eye.



What you can see here are blood vessels, running over the surface of the retina, and beneath them are light-sensitive cells, which allow you to see.



Lining the inside of each eyeball, there are over a hundred million light sensing cells.



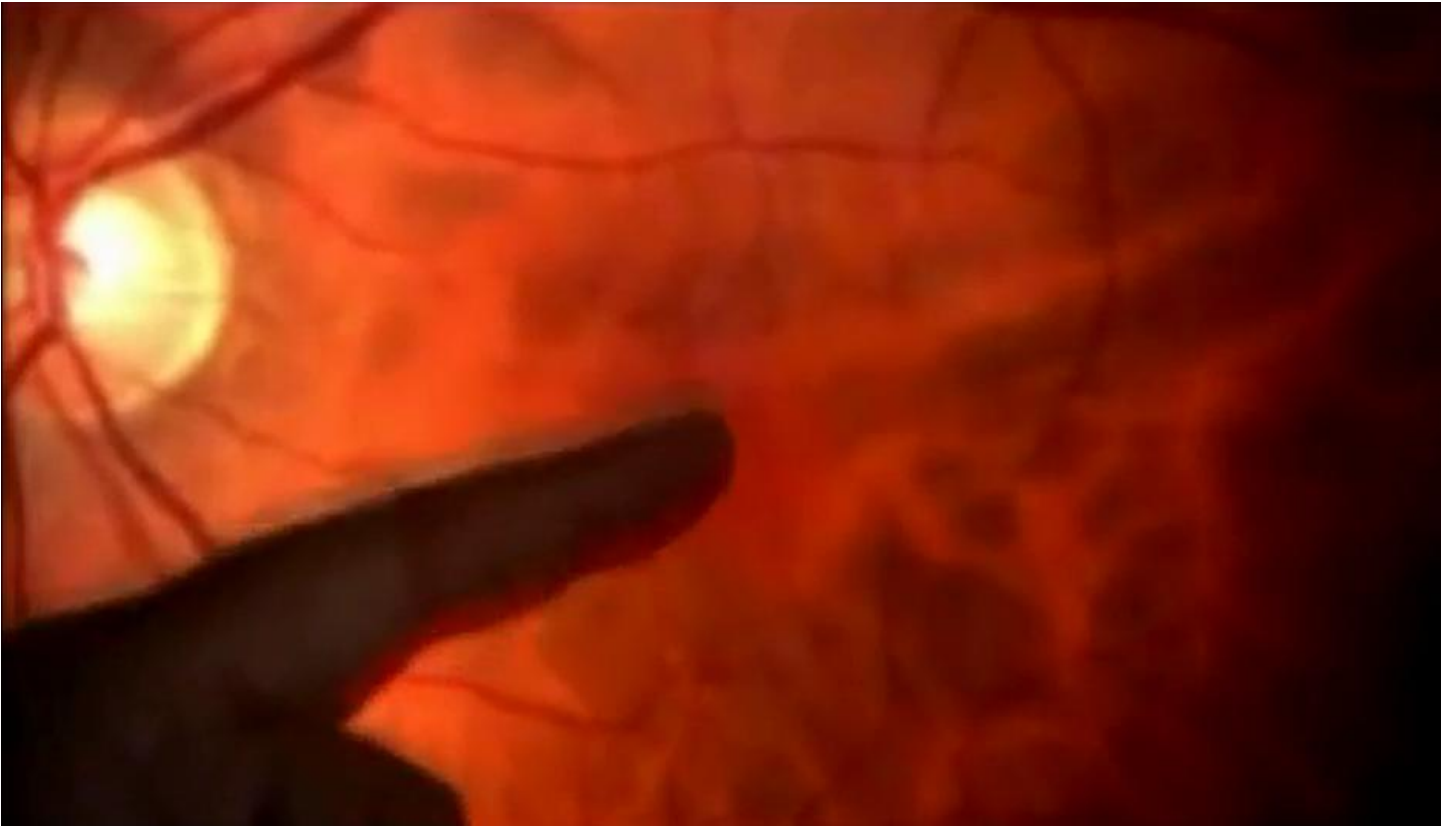
But only the bigger cone cells see in color.



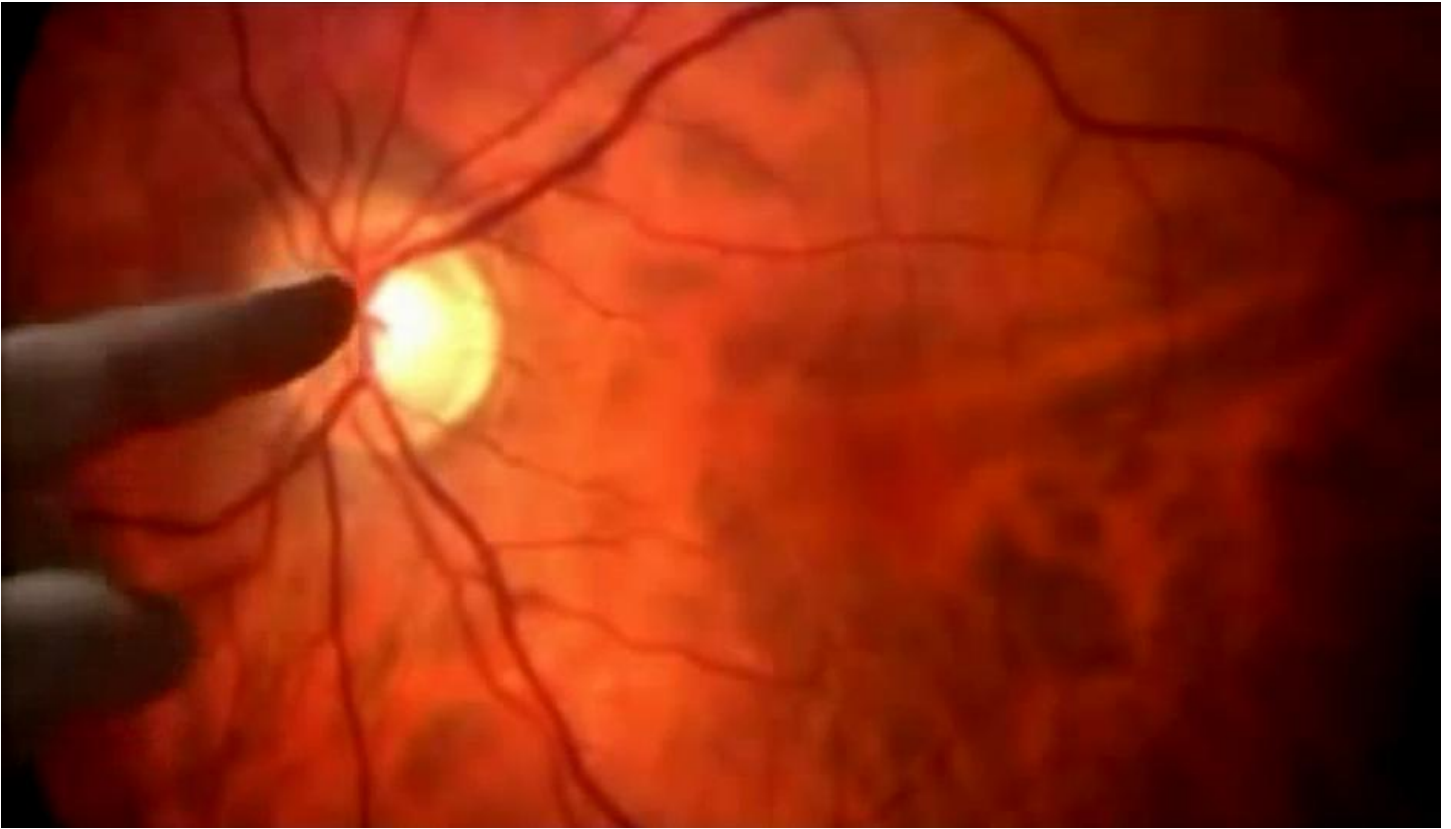
And amazingly only in one tiny area of each eye that there are enough of these cone cells jam pack tightly together for sharp color vision.



Most of the retina gives you a vision which is quite blurry.



Apart from this very small area in the middle; just that smudge that we can see there; this little smudge here that gives you really fine detail vision. And that bright spot is even odder; an area which is completely blind.



That's where all the blood vessels come in and out, and where all the optic nerve fibers go back to the brain. And there is so much going on there that there aren't actually any light-sensitive cells in that area and that corresponds to your blind spot so it is a very odd design.



So with our eyes designed with a blind spot and mostly blurred image, how do we see the world in such intricate detail and vivid color?



The patchy image made in the back of the eye is just the beginning of how we see. As our eyes dart around, we make sure that anything interesting is lined up on our sharp spot, so we get a good look at it.



And you don't know you're doing it because the brain takes these jerky snapshots and creates a nice smooth movie of the world. And the Brain also compensates for the blind spot because our eyes give a slightly different images we can combine them to give one complete picture.

How many of you did not know we see in jigsaw puzzle? We actually see in jigsaw puzzle and what happens is this.



Take this for instance. This part is sharp, so the face of the lady.



But as we move our eyeball around, you start to see left eye right eye; you start to see something else is sharper. So it's actually collecting bits and pieces to form a jigsaw puzzle.



And then we dart back to her face. And as two eyes are capturing the image on two lines of sight, we're able to get some depth perception we start to detect how far a person is because we have two eyes. If you have only one eye you will have great difficulty detecting depth of vision.



And then it starts to merge it together and then you have a complete picture.



Because we are looking at each bits and pieces everywhere and somehow reconstruct in the mind to build up the image and that is "*Sañkhāra*".

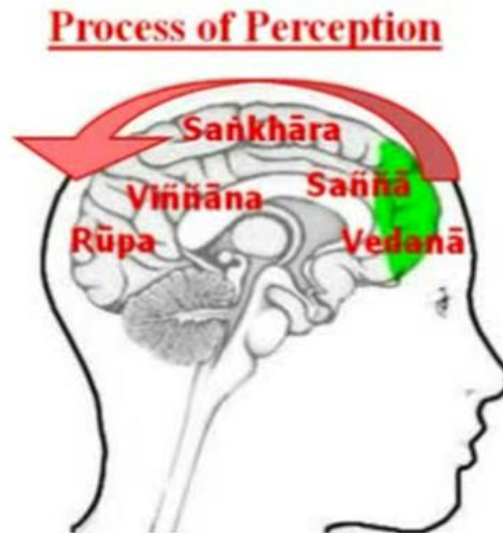


PROCESS OF PERCEPTION (Pañca khandha)



THE 5 CUMULATIVES ("the 5 aggregates") :

- Feeling (Vedanā)
- Sensation (Saññā)
- Mental Construction (Sankhāra)
- Perception (Viññāna)
- Mental Image (Rupā)

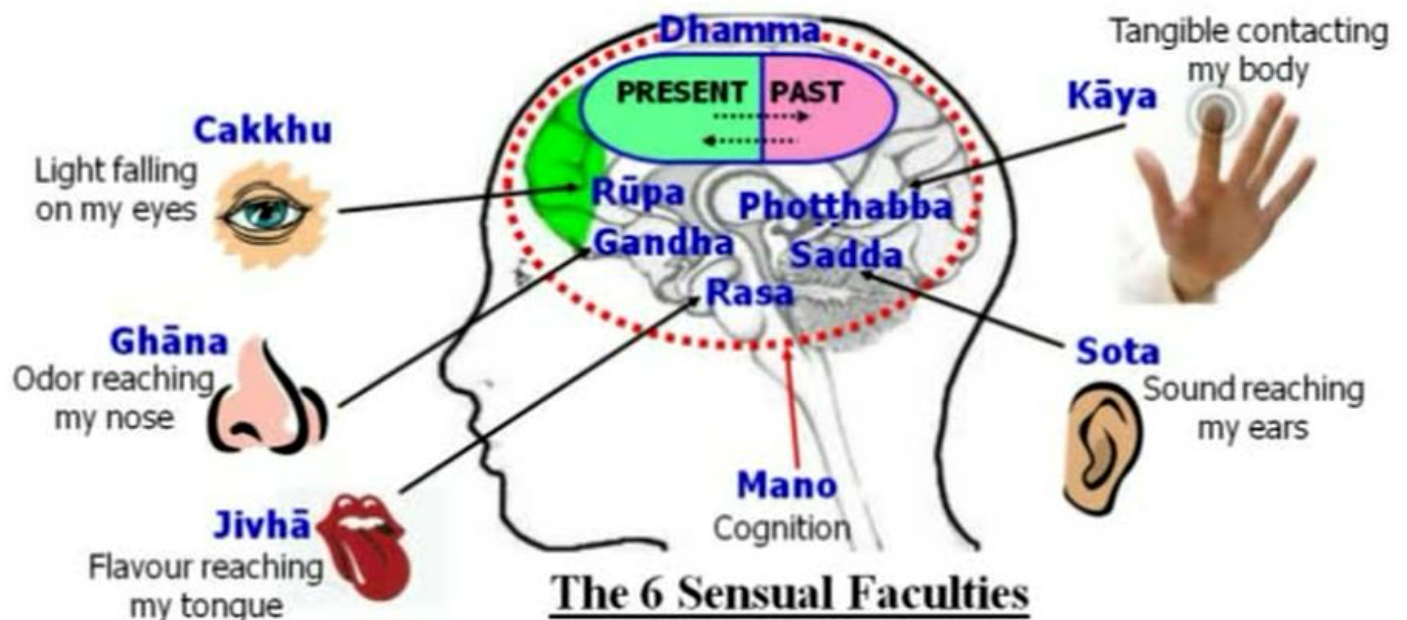


It's amazing that Buddha knew about this and wrote about, talked about it 2600 years ago. And scientists have only discovered it less than a hundred years ago.

Then we have some kind of a perception.



COGNITIVE PROCESS (Mano)



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And then the Cognitive Process takes over. So what does the Cognitive Process do? All these are the different sense organs bringing in information to the brain. Now I am sure some of you have read about somewhere someone mentions about six senses; we have six senses. The word “Sense” is in correct. “*Saḷāyatana*”, it is not a sense. It is some kind of faculty. So eye is a faculty of vision; the ear is faculty of hearing. Now there are six faculties because five of them are physical senses; number 6 is Cognition that is the faculty of thinking; faculty of Cognition.

What cognition does is it collects all these images, "*Rūpa*" is the image or what we see, "*Ghāna*" is the image of what we smell, and what we taste is "*Jivhā*". Now a lot of people say "*Rūpa*" is form or "*Rūpa*" is an entity or object, but we know "*Rūpa*" and "*Nāma*", they are all derived from Sanskrit word. And the Malaysian word has the same meaning; "*Rūpa*" is just an image and "*Nāma*" is just an identity, some kind of meaning we give to it.

So what the Cognitive Process does is it takes "*Rūpa*" and tries to create "*Nāma*" with it, attach "*Nāma*" to it. That's why "*Rūpa*" and "*Nāma*" go together. "*Rūpa*" is the image and "*Nāma*" is the identity; some identification, some meaning.

So the Cognitive Process "*Mano*" takes all these, "*Cakkhu*," "*Ghāna*," "*Jivhā*," "*Kāya*," "*Sota*", and refers to the past. And when it refers to the past, it actually changes the past. It brings past information back to the present. And in this whole process, it also changes what you have just perceived. What you have just perceived is being adjusted by your memory.



COGNITIVE PROCESS (Mano)



- The Fluid Past is organized in the memory in a categorized manner;
- The Cognitive Process (*Mano*) refers to the Categorized Fluid Past (*Papañca*) to interpret what was perceived (*Rūpa*);
- Giving meaning to & re-cognizing what was perceived ("interpretation");
- The meaning cognized is "*Dhamma*".



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So Fluid Past is organized in a categorized manner; like I said how many males and then you will see how many people that look like a male and you count and this concept of the male that is category, categorization. Cognitive process refers this perception that you have just picked up, refers it to be categorized Fluid Past, and this process is called "*Papañca*", and tries to interpret what has been perceived. A lot of these interpretations, it gives meaning, interpretation is giving meaning. It gives meaning to it and it tries to "re-cognize" because it's a Cognitive Process. It tries to "re-cognize" what was perceived and this is called "Interpretation", giving meaning to it, attaching the "*Nāma*" to "*Rūpa*." And "Re-cognizing" exactly what it means: "Recognizing."

I give you an example, you walk to the shopping mall and your eyeball may or may not be looking at people passing by. Let's say you're looking down and then you look up and somebody passes by, you capture the image. What the "*Papañca*" does is, "Oh! I got a face;" an "*Rūpa*" going to the memory, "Do I know this person? No! Forget it." Next minute; then your neighbor comes along, suddenly you capture the image of this neighbor and then it goes to the memory "*Papañca*", "Oh! This is the face that looks like my neighbor." Then you look at him again, your Attention System is switched on focusing on him now. You look at that person one more time and check your memory again one more time, and yes that is my neighbor, looks exactly like him, so it must be him. It could be a twin brother that you don't know about, but then again you know.

This is what's happening constantly. Everything you look at your Attention System determines whether or not a "*Papañca*" will happen. If your Attention System is not focused on whatever image you're picking up there is no "*Papañca*." It does not go back to the past and tries to "re-cognize", so you will not recognize. So that is really happening in our mind in terms of the Cognitive Process or trying to give meaning.

And this giving of meaning is the sixth sense. It is not ESP so to speak but this is the sixth faculty. It is not a "Sense", it is a Sensual Faculty "*Salāyatana*." "*Salāyatana*" means Sensual Faculty because we are living in the Sensual Realm. There are three major Realms: (1) Sensual Realm, (2) the Imagery Realm, (3) and the Imageless Realm. So we are living in the Sensual Realm. So therefore, it's a Sensual Faculty.

If you are reborn into the Imagery Realm, that is the "*Rūpa*." "*Rūpa Loka*" you will not have Sensual Faculty, there is no perception going on. If you are born in the "*Arūpa*" then there is the imageless, but I have no idea about that, not reborn there yet. We all try to get up the ladder, the 31 planes of existence and tried to pull up the ladder somehow.

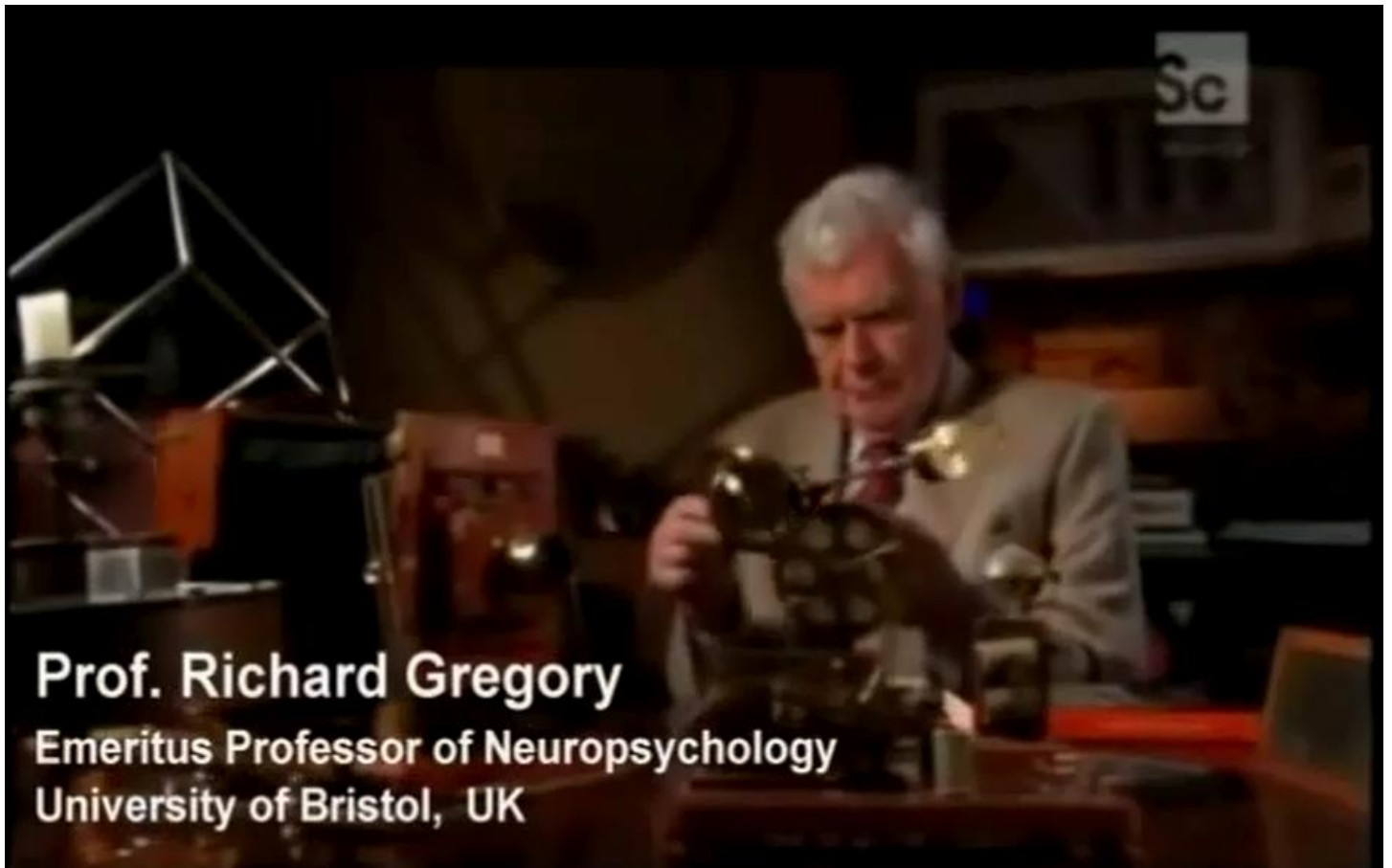
Because we are in the Sensual World, we have these Sensual Faculties, so that is what this sixth sense, so call Senses mean: Faculties.

And then the meaning that is cognized is called "*Dhamma*." The word "*Dhamma*" doesn't mean "*Buddha Dhamma*" in this case. "*Dhamma*" simply means: an information that is meaningful that you can use, some kind of knowledge, so that is what "*Dhamma*" really means in this case. It doesn't mean the "*Buddha Dhamma*." The "*Buddha Dhamma*" simply means the teaching from the Buddha. So here it is the learning from our perception, that's what this "*Dhamma*" means, a learning we acquire from this perception, we just learned something from what we saw.

So how we see? The eye is not responsible for seeing, the eye is nothing but the lens, connected with some kind of a light detector with optic fiber that goes all the way, such as optic nerves, but it's just like an optic fiber, in a camera, goes all the way to the brain and then it's processed in the mind.

I'm going to show you a video, but you have to pay a lot of attention because this one is little bit abstract. They are using Sherlock Holmes and Dr. Watson as the kind of parody to explain how we see something and makes sense of it. Because Sherlock Holmes when he sees a piece of evidence, he starts to come up with some idea, "Oh this evidence means something," and he comes up with the story. When he sees the evidence in a murder case, then he comes up with a story of how the murderer got away and things like.

And our mind is doing exactly the same. Every time we capture an image, we start to find some kind of a story to explain what we have just observed or what we have just perceived. So it is not the eye that is responsible for this experience you call "Seeing". The eye is nothing but a camera, so different experiences are caused by the individual experience of each and every person from the Fluid Past.



Prof. Richard Gregory
Emeritus Professor of Neuropsychology
University of Bristol, UK

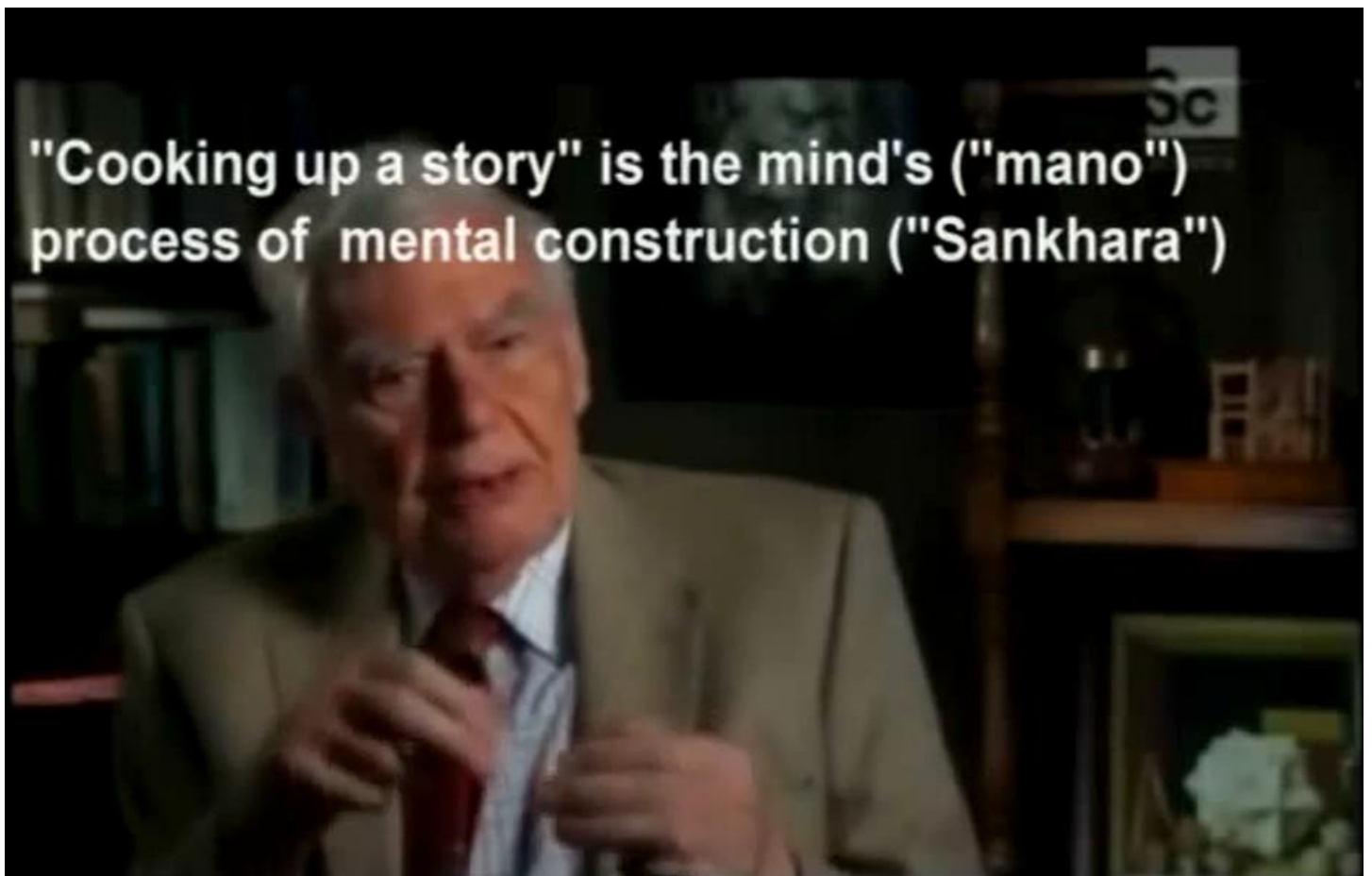
Since he was a child, Richard Gregory, former professor of neuropsychology at Bristol University and inventor of optical instruments has been fascinated by how we see.



People often say that the eye is like a camera, but this is kind of true, but it's not anything like the whole truth. Here the camera and it has the lens on the front here of course, and we have a lens in the eye, and it has a screen on the back which has the picture the same is true of the eye. Now I look at the picture here, and then my brain interprets that, and I have a mental image or picture which is completely different from the optical. And this is where things get tricky, difficult, and exciting and interesting; it's the difference from the camera that mattered. Although the eyeball itself is a camera, it's the brain is responsible for seeing.



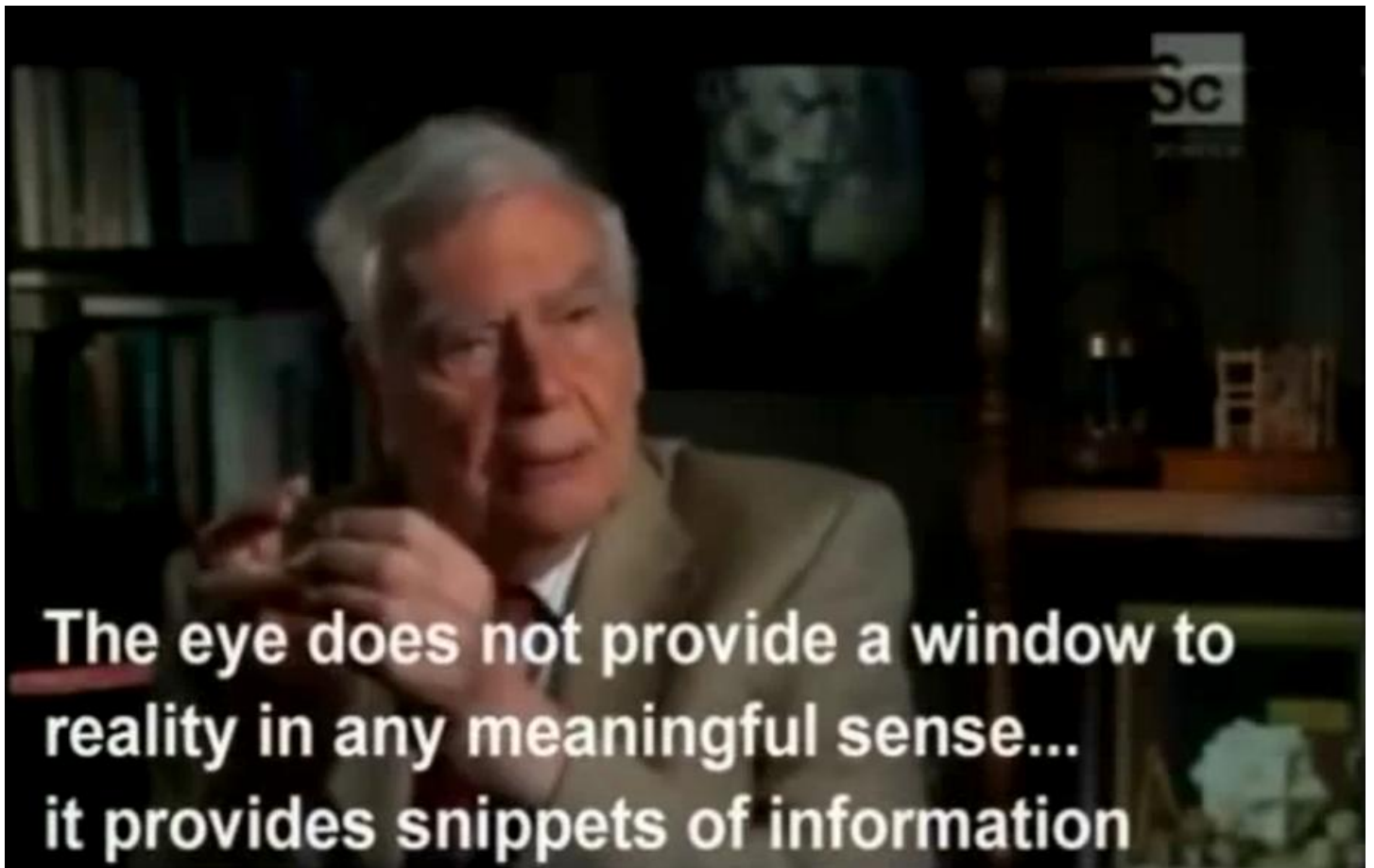
And what our brain does is use individual experience to interpret what the eye sees.



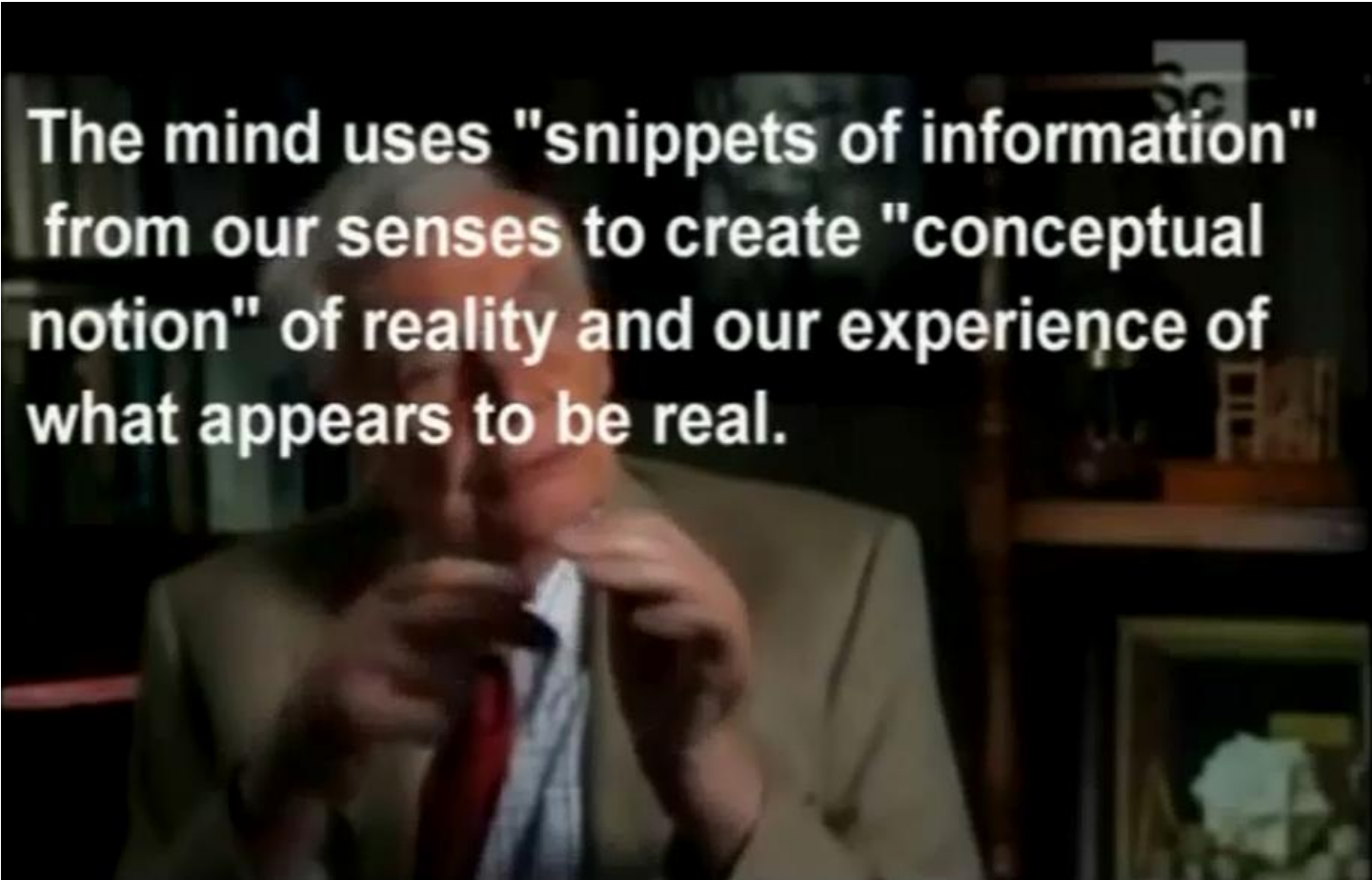
You get the idea in the end that vision works not by directly representing the world but by cooking up a story of what might be out there on the basis of bits and pieces of information before Clues.



I think Sherlock Holmes is a model here that he gets what was going on, a little tiny clue. Depending on his individual experience Dr. Watson's interpretation of visual clues may differ greatly from the deductions of his hero.



That's all the eye can really provide.



The mind uses "snippets of information" from our senses to create "conceptual notion" of reality and our experience of what appears to be real.

It doesn't provide the window to reality in any meaningful sense. It provides snippets of information from which the brain creates both conceptual notions of reality that you can describe by language, and also the experience of what appears to be real through the eyes and the other senses.

So it's not the eye that is responsible for seeing; it creates snippets of information, bits and pieces, and the mind tries to give it meaning, tries to cook up a story.

What do you see...



What do you see? Does anybody see something? Common please respond.

What do you see...

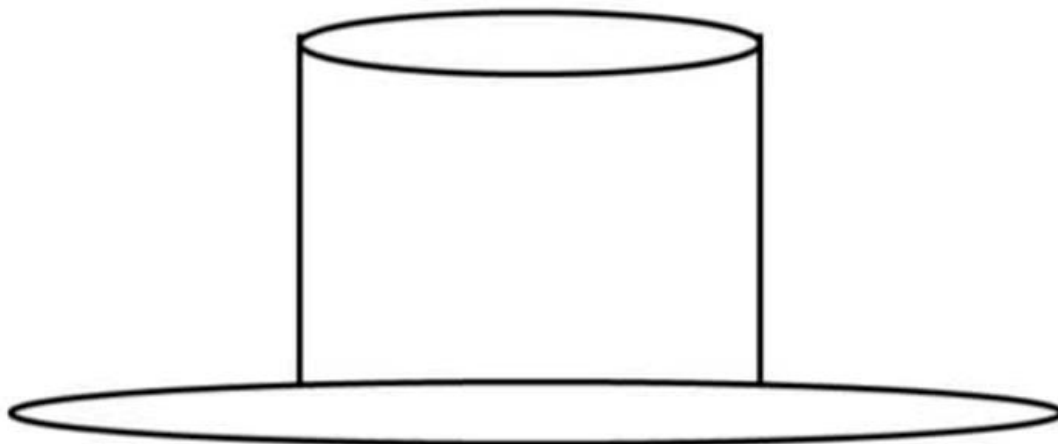


What do you see old lady or young girl? How can you see both? How many of you see only one initially? Some of you will only see one because it depends on the combination of your memory of the Fluid Past.



What do you see? Answer: smiley or smiley face. Why? Because you have a memory of what a smiley or smiley face looks like.

What do you see...



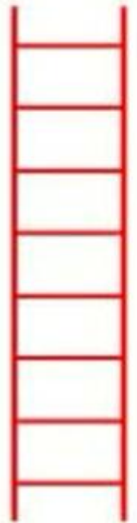
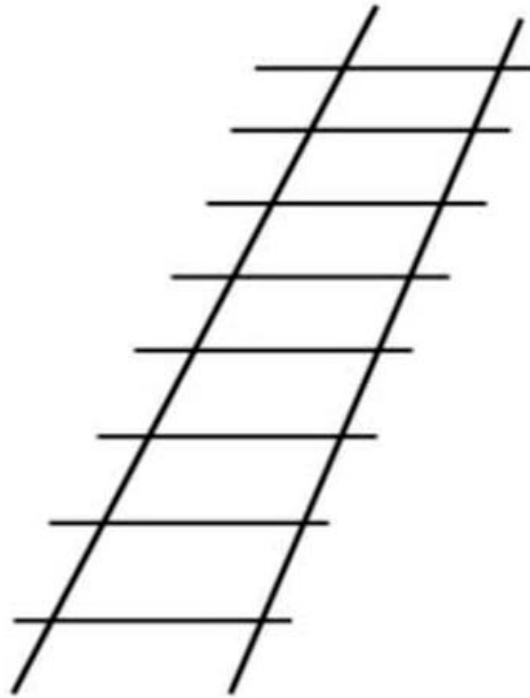
What do you see? Answer: Hat.

What do you see...



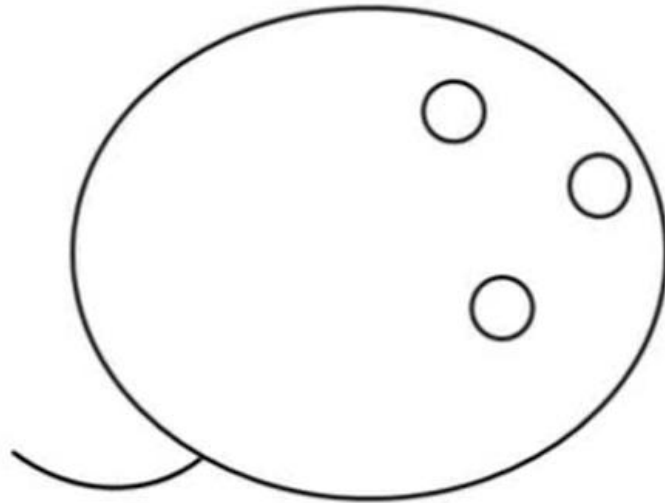
What do you see now? Answer: Ladder. Are you sure?

What do you see...



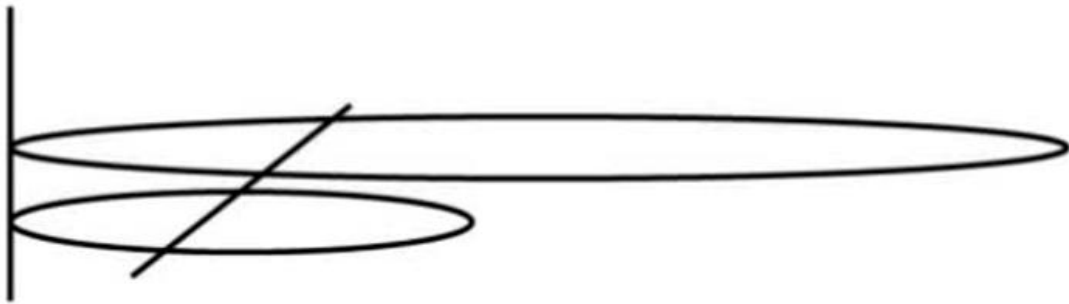
What do you see now, railroad lines? No! It was the ladder; I just shifted the lines around. But your memory of the ladder told you that was the ladder. Your memory of the railroad track tells you this is a railroad track. But it is just lines.

What do you see...



What do you see? Answer: balloon. No! That was the smiley that I shifted some bit and pieces around. Exactly the same object. You see it is the memory of the smiley that told you what that one was the bottom one. But then when I reshuffled a bit around and show you again you didn't have a clue that it was the same thing. But that is what it is.

What do you see...



What do you see? That was the hat. I just moved the lines around. I just shifted one of the lines and reshuffled the two oblong things and that was it. You see, when your mind processes this one, the red hat, it goes to "*Papañca*" mode and fetches from memory. Somehow I had looked something like that, so the hat. But when I give you the same bits and pieces it doesn't look like that anymore then it's not a hat anymore so you give meaning to it you cook up the story in your head. That's really what happened. Your mind cooked up that story

So that was the Cognitive Process.



AFFECTIVE PROCESS (*Citta*)



- According to what has been cognized, an unconscious emotional reaction (*tanhā*) is aroused in the form of a bio-chemical reaction in the organism;
- For example: **ANGER** arousal (same reaction as **FEAR**)
- The **Amygdala** is activated during Fear or Anger reaction causing the brain to send a message through the sympathetic pathway to various glands and organs, in particular the adrenal gland;
- Adrenal gland releases Adrenalin (epinephrine) and Cortisol (hydrocortisone) into the blood stream, which is carried to various organs in the body;
- Organs in the body behave in specific ways according to the hormones;
- This unconscious reaction is commonly called "**fight or flight reaction**".

Then the Affective Process we call "*Citta*." So according to what has been cognized, then we start to have some kind of unconscious emotional reaction to it, and this is aroused. And this unconscious emotional reaction is called "*Taṇhā*." It is an emotional arousal. It's turned out to be a biochemical process. All emotions are biochemically linked. There is a chemical for every emotion that you will experience, and these chemicals are called peptides. They get attached to cells in your body and then the cells in your body start to react, and you start to feel uncomfortable or discomfort. You start to have this feeling of something.

So we take an example, the most extreme example: fear and anger. Fear and anger actually have almost identical reactions in the body, biochemical reactions. It is called fight or flight reaction, triggered by the Amygdala.

So the Amygdala is part of your brain where it is processing emotions, emotional brain. It is in the in the Limbic System. Amygdala is in the Limbic System which is your emotional brain, and then it is activated during fear or anger reaction, and this causes the brain to send a message through the sympathetic pathway. This is through your Central Nervous System, your spinal cord, through this sympathetic pathway to various organs and glands in the body to do something.

These messages are created in the brain, that they come in the form of chemicals, so they are some kind of neurotransmitter that is going down the spinal cord and send to the rest of the body, and sending this message to this sympathetic pathway, which is found in your spinal cord to the various glands, especially adrenal gland, which is located just above your kidney.

Adrenal gland releases two very powerful hormones: (1) first Adrenalin, (2) later Cortisol. It releases Adrenaline first and it goes into the bloodstream and this is now carrying to various organs in the body. And various organs in the body begin to behave in specific way according to what the hormone is supposed to do or what the hormones is telling them to do. A hormone is nothing but a messenger. You do this and then the organs will just do exactly react to it. And unconscious reaction, this whole unconscious reaction is called Fight or Flight reaction.



Fear is so important for our survival; we do something absolutely remarkable. Our bodies begin to react to a threat before we're even consciously aware of what the threat might be. Because when we are faced with danger milliseconds count.



At the first hint of danger, early warning signals are sent to the brain via the optic nerve to a tiny and primitive fear center, the Amygdala. This prepares our bodies for action.



Next nerve pulses all follow down the spinal cord to the Adrenal glands near our kidneys. This triggers a release of Adrenaline. Now we're on full alert. Adrenaline is the vital hormone that can travel in our body in a split second.



As it reaches our lungs we breathe more deeply and take in more oxygen. It also makes her heart beat faster.



Oxygen rich blood is diverted to our muscles; they are now charged springs waiting for the signal to run or fight.



All this before our conscious mind has even registered a threat. This reaction to fear has evolved over millions of years and is known as the Fight-or-Flight response.

Fear is actually evolved and that is programmed into our cells, and then it is passed on to our genes to the future generation, one generation after another, somehow they recognize what fear is. There are a few basic primal fears. One is object coming towards you quickly, the Amygdala somehow, because of the memory in the genes, it is able to detect this is something that is threatening to your life. Another thing is feeling something burning: fire, because cave people they venture into the jungle, catches fire because of lightening, and then are trapped in the fire, then somehow that feeling, the feeling is remembered and that is passed on from generation to generation. Another thing is drowning. Another thing is fear of height, falling. We do not fear height; we fear falling. So people who are afraid of height, it is not height that they are afraid of. If you are afraid of height you will never ever take a lift or an elevator because it is going high, but you're not afraid of stepping into an elevator. How many of you actually have this fear of height? Fear of falling. But I know afraid of stepping into an elevator: no. Why? It's going up on the 22 floors; very high floor. But you're not afraid of height and when you get out of the lift lobby, on the 22nd floor, before you look out, are you afraid? No! When are you afraid? When you get close to the window and you start to look out. Perhaps then you're afraid. So you're not afraid of height; you're afraid of falling somehow. And falling is a primal fear. So these are some of the fears that have evolved.

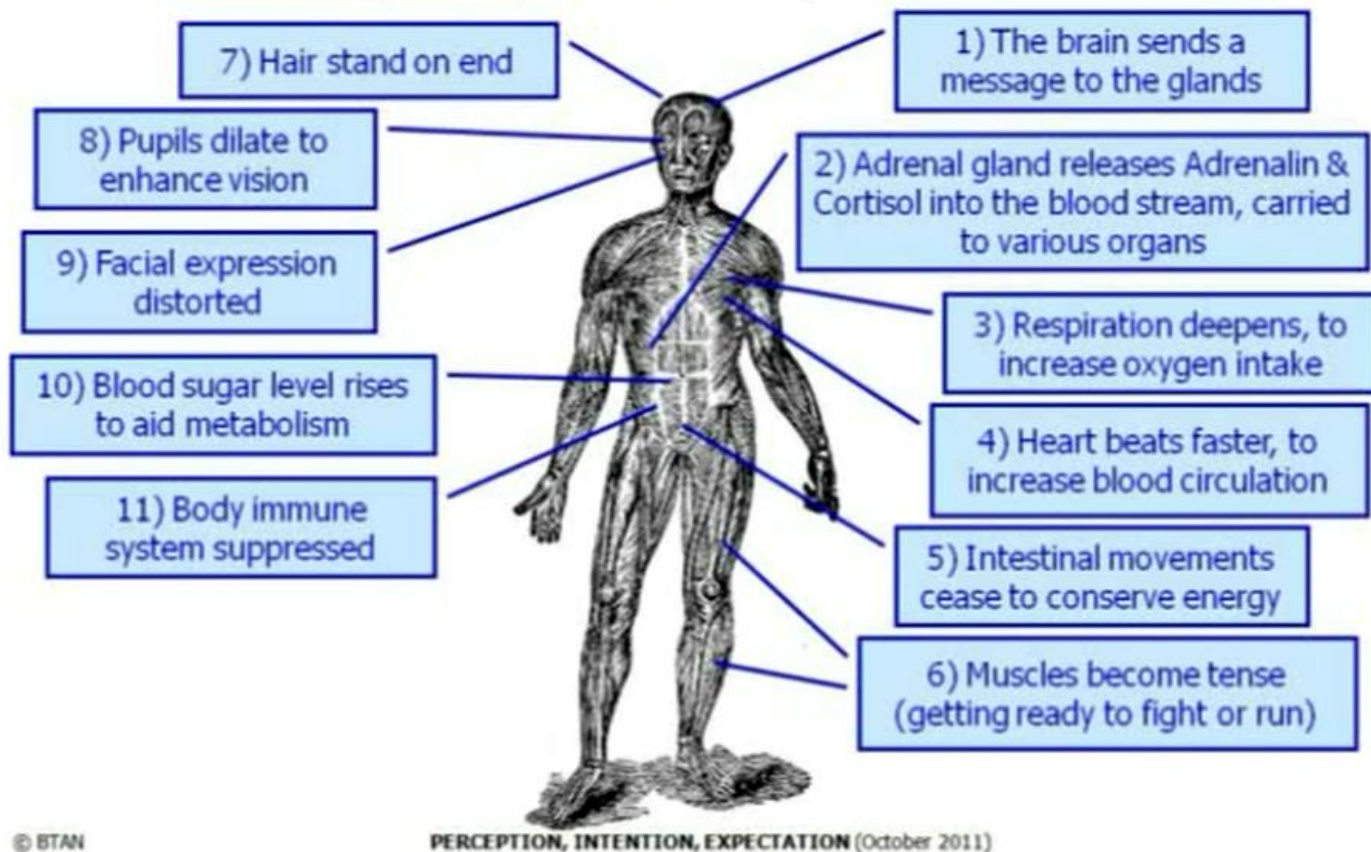
Now what has happened in a Fight-or-Flight reaction? Now one thing a lot of psychologists themselves they are using the wrong word, they call it Fight-or-Flight Response. It is not a Response, it is a Reaction. And I define the differences as: a Reaction is when something happens, and you react to it right away, you're not thinking about it. A Response is when something happens, you just look at what has happened, you think about it, and then you come back with some kind of a Response. So they call it Response but actually in true terms of the word it is Reaction.



FIGHT OR FLIGHT **REACTION**



- How the body **reacts** to Fear and Anger:



- (1) So what happens first the brain sends a message to all the glands, especially Adrenal gland.
- (2) So Adrenal gland starts to release adrenaline, followed by Cortisol that goes in to the blood stream gets carried all over your body.
- (3) And the first thing that happens is you start to breathe deeper; why, because you need to absorb oxygen and pass it on because getting ready to take action. Oxygen is the food for yourself and your brain.
- (4) And your heart also beats faster, why, because it has to pump the blood to push all this oxygen all over the body.
- (5) And then it stops the intestinal movement and this is actually done by Cortisol. It stops the intestinal movement to conserve Energy. Because in the ancient cave man days they can be attacked by saber-tooth tigers, all kind of wild animals, so after you've had lunch, why do you still want to digest lunch when you're about to become lunch.

- (6) So your muscles start to tense up, why, because it is getting ready to fight and react. Because your muscles are loose and relax, your reaction time is very slow, but if your muscle is tense your reaction is very fast. This is why all the tennis players that you see in between games; they sit down, they try to relax, but just before they start, then they tense up their muscle again. Some of you who watch Mary Bartoli, you know, she does some funny actions. So when people are about to serve to her, she actually bounces around. She wants to tense up her muscle, so that she can react to the ball coming, so quickly, she can react faster. At least do that, tense up the muscle, get ready to fight or run.
- (7) And then hair stands on end. This is a remnant of evolutionary past. It serves no purpose today, but before we were homosapiens, before we were human species, we were apes. Apes have long hand; they had to stand on hand to make the ape look bigger; to make the monkey look bigger. And before they were monkeys long before they were mammals, they were reptiles. This is going back 200, 300 million years back, we were reptiles once upon a time.
- (8) Pupils dilate, so you start to capture more light and pay more attention; this is increasing your Attention System to the danger. This is another remnant of evolutionary past.
- (9) Facial expression distorted because you want to make yourself look tough; I am a tough guy, you know, don't come near me.
- (10) And then this is Cortisol. It is doing terrible thing to your body. It increases your blood sugar levels to aid metabolism. That is not good, very unhealthy.
- (11) And Cortisol suppresses your immune system. What happens to you if you continuously get angry? And you are getting high blood sugar, and your immune system getting suppressed regularly, what is going to happen to your health over a period of time? You get diabetes. You get sick. You know people who get sick easily; I think they are not able to manage their emotions. It wasn't their health that they couldn't manage. It was the emotions that they couldn't manage. Stress is an extreme case of this. So all this is happening to you. A lot of people think cholesterol level is the result of food. Cortisol is triggering a high increased cholesterol level.



Release of Tension in action (**Kamma**)



- Unconscious emotional reaction (*tanhā*) triggers bio-chemical reaction in the organism causing discomfort, displeasure and tension in the body (*dukkha*);
- Giving rise to unconscious intention (*cetanā*) to release the tension in action;
- We release tension in action (*kamma*) to get rid of the discomfort;
- Failure to release tension increases the pressure of the tension;
- Sometimes, we release tension in action to innocent parties;
- There are consequences to every action (*vipāka*).



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So we tend to want to release our tension, releasing tension in action is like getting angry and reacting, so this is called “*Kamma*”: the action we take; the cause of all outcomes. So unconscious emotional arousal, “*Tanhā*,” triggers all bio-biochemical reaction in the organism, and this actually causes discomfort, you feel uncomfortable, you feel tense. And this Fight-or-Flight reaction happening and you feel very tense. Then this gives rise to some kind of unconscious Intention, you now want to take action, you want to fight back, you want to shout back. When people shout at you, shout terrible things at you, if you don't have a trained mind that is if you don't do a lot of meditation, you don't actually practice mindfulness, you tend to react.

Even a trained mind, even meditators, even people who practice mindfulness; driving along the road happily, suddenly a car cuts in front, even meditators also get upset. This is actually what's happening there. Releasing the tension in action and this is called "*Kamma*": to get rid of the discomfort. And the failure to release actually builds it up, gets worse, the pressure gets worse, then there is more pressure to release it later on, and this happens to many of us.

It happened to me in my younger days in the office. The boss starts to abuse you, the boss starts to say terrible things about you, or the boss gets upset with you, or you get blamed for something you didn't do wrong, and you're very upset but you couldn't fight back to the boss. You're not going to answer the boss because he is going to decide on your bonus. So you have to be careful so you don't answer back to the boss. What happens if it builds up? The pressure builds up. You go home you see your brother, your sister, your wife, your children, your mother, and they then start to say something not so nice to you. What do you do? You flat out shout back. That how it works, we release it on innocent parties most of the time. Especially, when we are in a situation where we are not able to release it to the party that is accosting us. When we go home we often release it to innocent parties. While not only adults go back and release it on their children, the children in school get bullied by their friends, come home, and release it on the parents.

So there are always consequences to every action you take, and this consequence is called "*Vipāka*." So again you see a picture of a driver getting angry; then you see hair standing on end of the cat. The cat is really having hair on end. So it makes the cat looks taller.

Consequences of the reaction "*Vipāka*"; consequences all come to two areas: (1) internal and (2) external.

Let's talk about internal. Internal consequences is what we call stress. The stress of life was presented by Hans Selye as the General Adaptation Syndrome. General Adaptation Syndrome: it is stress. He was the first one to formulate it. But I think he read the Buddha Dhamma before he did that because it says it includes 3 stages.



CONSEQUENCES OF THE REACTION (*Vipāka*)



- Consequences of the reaction are Internal and External
- The Internal consequences arise at different levels:
(General Adaptation Syndrome – “stress”)

1. Alarm Reaction

2. Stage of Resistance

3. Stage of Exhaustion

General Adaptation Syndrome stages:

- (1) First stage is Alarm Reaction that means when something happens, you react to it, you're alarmed, you react to it first, you cry something hurts you, you cry that is the alarm reaction.
- (2) Next is the Stage of Resistance you begin to feel depressed, you begin to feel unhappy, and there is a suffering, emotional suffering, physical suffering.
- (3) Finally Stage of Exhaustion is when you finally give up, then you are in deep depression.

Buddha actually talked about it 2600 years ago. Buddha was the person came up with stress.



CONSEQUENCES OF THE REACTION (*Vipāka*)



- Consequences of the reaction are Internal and External
 - The Internal consequences arise at different levels:
(General Adaptation Syndrome – “stress”)
 1. Grief/Sorrow (*sōka*)
 2. Lamentation/Mourning (*paridēva*)
 3. Physical Pain (*dukkha*)
 4. Distress/Depression (*domanāsa*)
 5. Exhaustion/Expiration (*upāyāsa*)
1. Alarm Reaction
2. Stage of Resistance
3. Stage of Exhaustion

This is what Buddha said; it begins with five stages according to what Buddha had taught us:

- (1) First it is grief and sorrow: we cry, we're lamenting, we're moaning, we get angry, we get sad.
- (2) Next we start feel some kind of depression, some kind of distress, either it is emotional or actually we feel the pain when it is physical.
- (3) Finally it gets to a point we can't stand it, and then we want to give up, that is the stage of exhaustion or expiration.

May be you have known about this, but I have personally known relatives, where husband and wife are very close, very close, loving couple. When husband dies, even the wife has perfect health at that time, within 2 years she dies, that is the stage of exhaustion. People who lost the loved one, a lifetime partner, very close and they are very loving, and when the husband dies, the wife starts go into deep depression. Finally she hits the stage of exhaustion, that's the point where her whole body gives up because emotionally she has giving up, so the health also gave up along with it, and she dies within 2 years, even though she had perfect health at the time of her husband passing away. And that had happened to a good friend of mine.

So that is the Stage of Exhaustion. Finally people can die from this. That is internal it happens to us in our body, in our mind.



External Consequences of the Reaction



- The External consequences arise in different forms:
 1. In relation to Opposite Party
 2. In relation to Society
 3. In relation to Law of the Land
 4. In relation to Environment
 5. In relation to Matters arising after Death

- (1) External consequences are things like in relation to the Opposite Party, that means if we react and do something to someone, that person may get so angry, he comes and kills me and so that is "*Vipāka*" with the opposite party.
- (2) It could also be in relation to Society; we do something wrong, we break the law, what happens, we get arrested go to jail.
- (3) It could also be Law of the Land. We try to cheat the income tax, what happens? We get jail for cheating the income tax. We get angry at the police officer, and we are assaulting, and then he might kill us or he will arrest us, go to jail and things like that.

- (4) Environment and we are doing that as a human species; we are doing it to the environment; we are destroying the environment, so we could be damaging property, damaging things in the environment, burning down houses.
- (5) In relation to matters arising after the death, that's pretty straightforward. Your next life what is going to happen? Carry forward to the next life. You might not come back as a human being. We don't know.

So all these are external consequences



MEDICATION



- How Western Science deals with Stress, Hypertension, Depression, PTSD (Post Traumatic Stress Disorder), etc



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When we encounter this depression and consequences, what Western assigns you or Western use to deal with it? It's actually using all kinds of medication to treat stress, hyper-tension, depression, PTSD, and so on. So they are doing all kinds of things, but actually Buddha had taught us? What do we do?.



T MEDICATION



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Take away the “C” and put the “T” there and what do you have: Meditation.
And that ends my presentation.